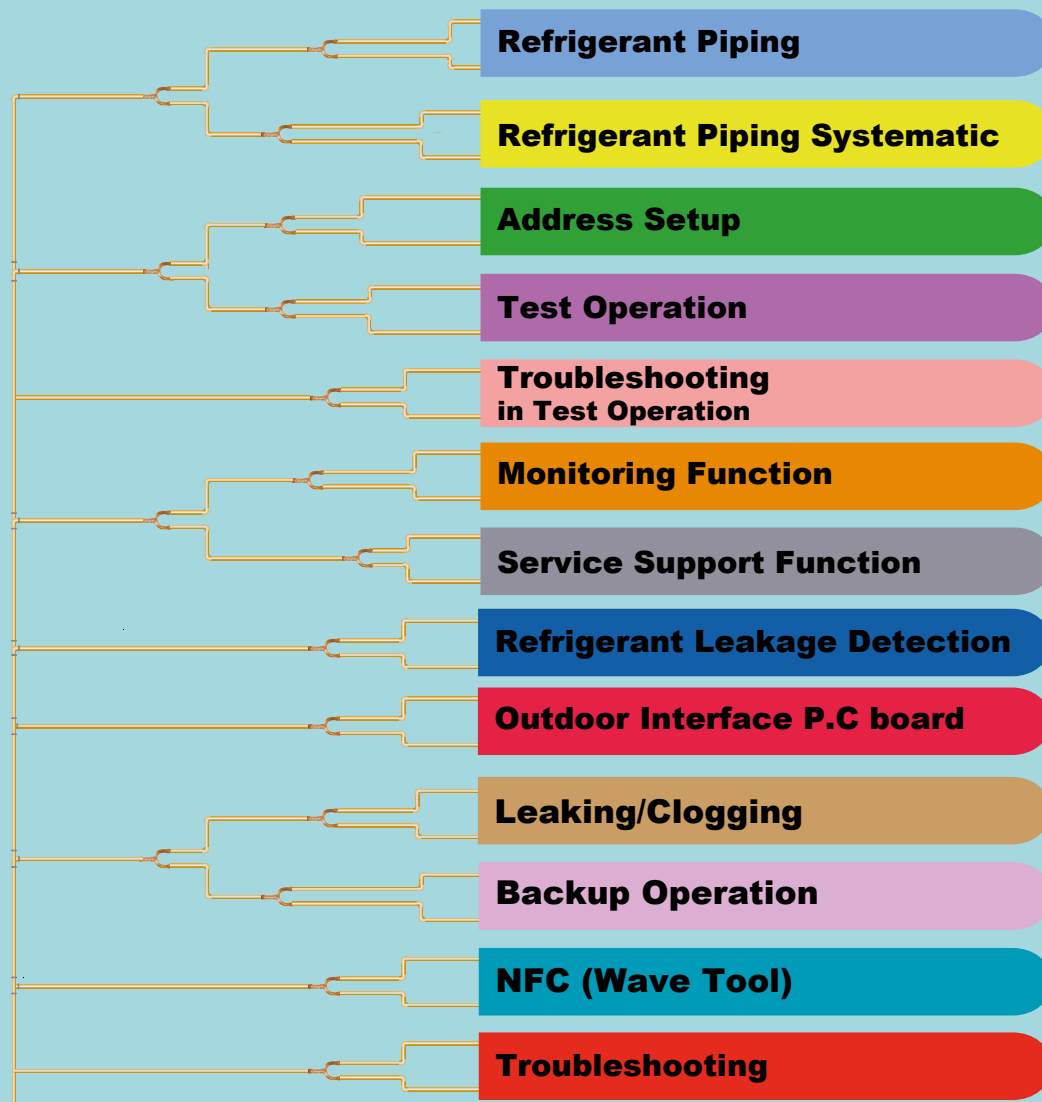


Quick Reference EU Model

*Cooling type
Heat pump type*



R410



Additional refrigerant

After finishing vacuuming, exchange the vacuum pump with a refrigerant canister and start additional charging of refrigerant.

Calculation of additional refrigerant charge amount

Refrigerant charge amount at shipment from the factory does not include the refrigerant for pipes at the local site. For refrigerant to be charged in pipes at the local site, calculate the amount and charge it additionally.

NOTE

If the additional refrigerant amount indicates minus as the result of calculation, use the air conditioner without additional refrigerant.

Outdoor unit type	MAP080	MAP100	MAP120	MAP140	MAP160	MAP180	MAP200	MAP220
Charged amount (kg)	11.5							

Cooling only model

Outdoor unit type	MAP080	MAP100	MAP120	MAP140	MAP160	MAP180	MAP200	MAP220
Charged amount (kg)	10.5				11.5			

Additional refrigerant charge amount at site = [1] + [2] + [3]

[1]. Compensation by system HP (Table 1)

[2]. Additional refrigerant charge amount Indoor unit (Table 2)

[3]. (Real length of liquid pipe × Additional refrigerant charge amount per liquid pipe 1 m (Table 3)) × 1.2

For HT8P - E model

Table 1

	System	Combination			Charged refrigerant (kg)	Compensation by System HP
	HP	HP				kg
Standard model	8	8	—	—	11.5	-3.5
	10	10	—	—	11.5	-3.5
	12	12	—	—	11.5	-1.5
	14	14	—	—	11.5	-1.0
	16	16	—	—	11.5	-0.5
	18	18	—	—	11.5	1.5
	20	20	—	—	11.5	1.5
	22	22	—	—	11.5	1.5
	24	12	12	—	23	-3.0
	26	14	12	—	23	-2.5
	28	16	12	—	23	-2.0
	30	16	14	—	23	-1.5
	32	16	16	—	23	-1.0
	34	18	16	—	23	1.0
	36	20	16	—	23	1.0
	38	22	16	—	23	1.0
	40	20	20	—	23	3.0
	42	22	20	—	23	3.0
	44	22	22	—	23	3.0
	High efficiency model	46	16	16	14	34.5
48		16	16	16	34.5	-6.5
50		18	16	16	34.5	-0.5
52		20	16	16	34.5	-0.5
54		22	16	16	34.5	-0.5
56		20	20	16	34.5	2.5
58		22	20	16	34.5	2.5
60		22	22	16	34.5	2.5
20		10	10	—	23	-7.0
22		12	10	—	23	-7.0
36		12	12	12	34.5	-12.5
38		14	12	12	34.5	-10.5
40	14	14	12	34.5	-8.5	
42	14	14	14	34.5	-4.5	
44	16	14	14	34.5	-4.5	
54	20	20	14	34.5	1.5	

For T8P, T7P model

		0806	1006	1206	14B6	1406	1606	18B6	1806	2006	2206
Refrigerant amount charged in factory	Cooling only model	10.5kg	10.5kg	10.5kg	10.5kg	11.5kg	11.5kg	11.5kg	11.5kg	11.5kg	11.5kg

When the system is charged with refrigerant at the factory, the amount of refrigerant needed for the pipes at the site is not included. Therefore, calculate the additional amount needed and add the required amount to the system.

(Calculation)

Additional refrigerant charge amount

MMY-MAP***6T8P-E

Additional refrigerant charge amount at site = [1] + [2] + [3]

[1]. Compensation by system HP (Table 1)

[2]. Additional refrigerant charge amount Indoor unit (Table 2)

[3]. (Real length of liquid pipe × Additional refrigerant charge amount per liquid pipe 1 m (Table 3)) × 1.2

Table 1

Space saving model

System	Combination			Charged refrigerant	Compensation by System HP
HP	HP			kg	kg
8	8			10.5	-3.5
10	10			10.5	-3.5
12	12			10.5	-1.5
14	14			11.5	-1.0
16	16			11.5	-0.5
18	18			11.5	1.5
20	20			11.5	1.5
22	22			11.5	1.5
24	12	12		21	-3.0
26	14	12		22	-2.5
28	16	12		22	-2.0
30	16	14		23	-1.5
32	16	16		23	-1.0
34	18	16		23	1.0
36	20	16		23	1.0
38	22	16		23	1.0
40	20	20		23	3.0
42	22	20		23	3.0
44	22	22		23	3.0
46	16	16	14	34.5	-6.5
48	16	16	16	34.5	-6.5
50	18	16	16	34.5	-0.5
52	20	16	16	34.5	-0.5
54	22	16	16	34.5	-0.5
56	20	20	16	34.5	2.5
58	22	20	16	34.5	2.5
60	22	22	16	34.5	2.5

High efficiency / High Diversity model

System	Combination			Charged refrigerant	Compensation by System HP
HP	HP			kg	kg
20	10	10		21	-7.0
22	12	10		21	-7.0
36	12	12	12	31.5	-12.5
38	14	12	12	32.5	-10.5
40	14	14	12	33.5	-8.5
42	14	14	14	34.5	-4.5
44	16	14	14	34.5	-4.5
54	20	20	14	34.5	1.5

Note : 14HP* = MMY-MAP1406T8P , MMY-MAP1406T7P
18HP* = MMY-MAP1806T8P , MMY-MAP1806T7P

Table 2 (For HT8P-E, T8P-E model)

Additional refrigerant charge amount Indoor unit	Standard Indoor unit	Fresh Air Intake Indoor Unit	Air to Air Heat exchanger with DX-coil	Hot water Module
Additional refrigerant charge amount kg/HP	0.4	0.2	0.2	0

Table 3 (For HT8P, HT7P, T8P, T7P model)

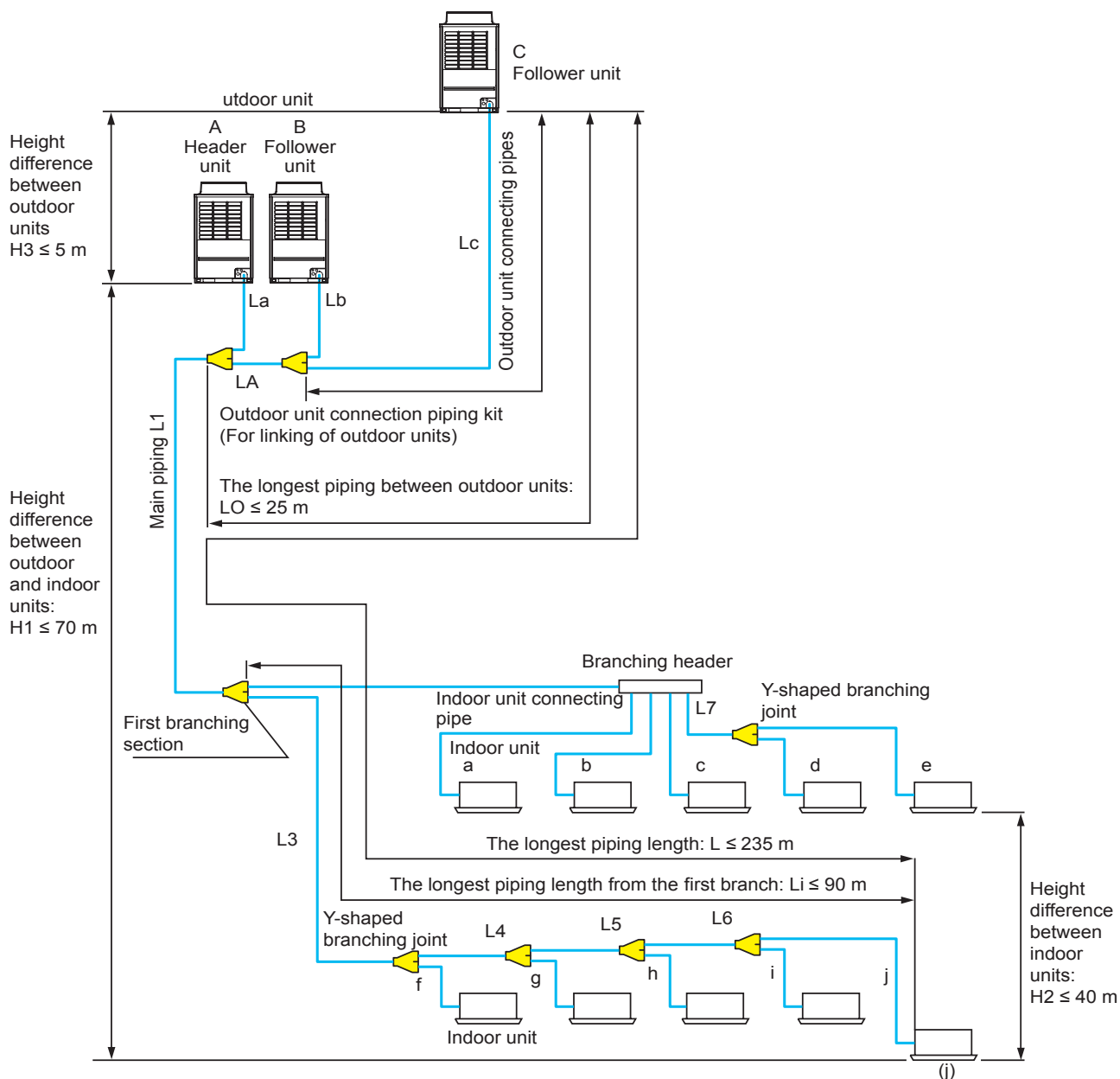
Pipe dia. at liquid side	mm	ø6.4	ø9.5	ø12.7	ø15.9	ø19.0	ø22.2
Additional refrigerant amount/1m	kg/m	0.025	0.055	0.105	0.160	0.250	0.350

Charging of refrigerant

- Keeping the valve of the outdoor unit closed, be sure to charge the liquid refrigerant into the service port at the liquid side.
- If the specified amount of refrigerant cannot be charged, fully open the valves of the outdoor unit at liquid and gas sides, operate the air conditioner in COOL mode, and then charge refrigerant into service port at the gas side. In this time, choke the refrigerant slightly by operating the valve of the canister to charge liquid refrigerant.
- The liquid refrigerant may be charged suddenly, therefore be sure to charge refrigerant gradually

For HT8P - E

Allowable length of refrigerant pipes and allowable height difference between units



System restriction

Outdoor unit combination	Up to 3 units	
Total capacity of outdoor units	Up to 60 HP	
Indoor unit connection	Up to 64 units	
Total capacity of indoor units (varies depending on the height difference between indoor units.)	$H2 \leq 15\text{ m}$	135% of outdoor units' capacity
	$15\text{ m} < H2$	105% of outdoor units' capacity

Note

(*1): (D) is outdoor unit furthest from the 1st branch and (j) is the indoor unit furthest from the 1st branch.

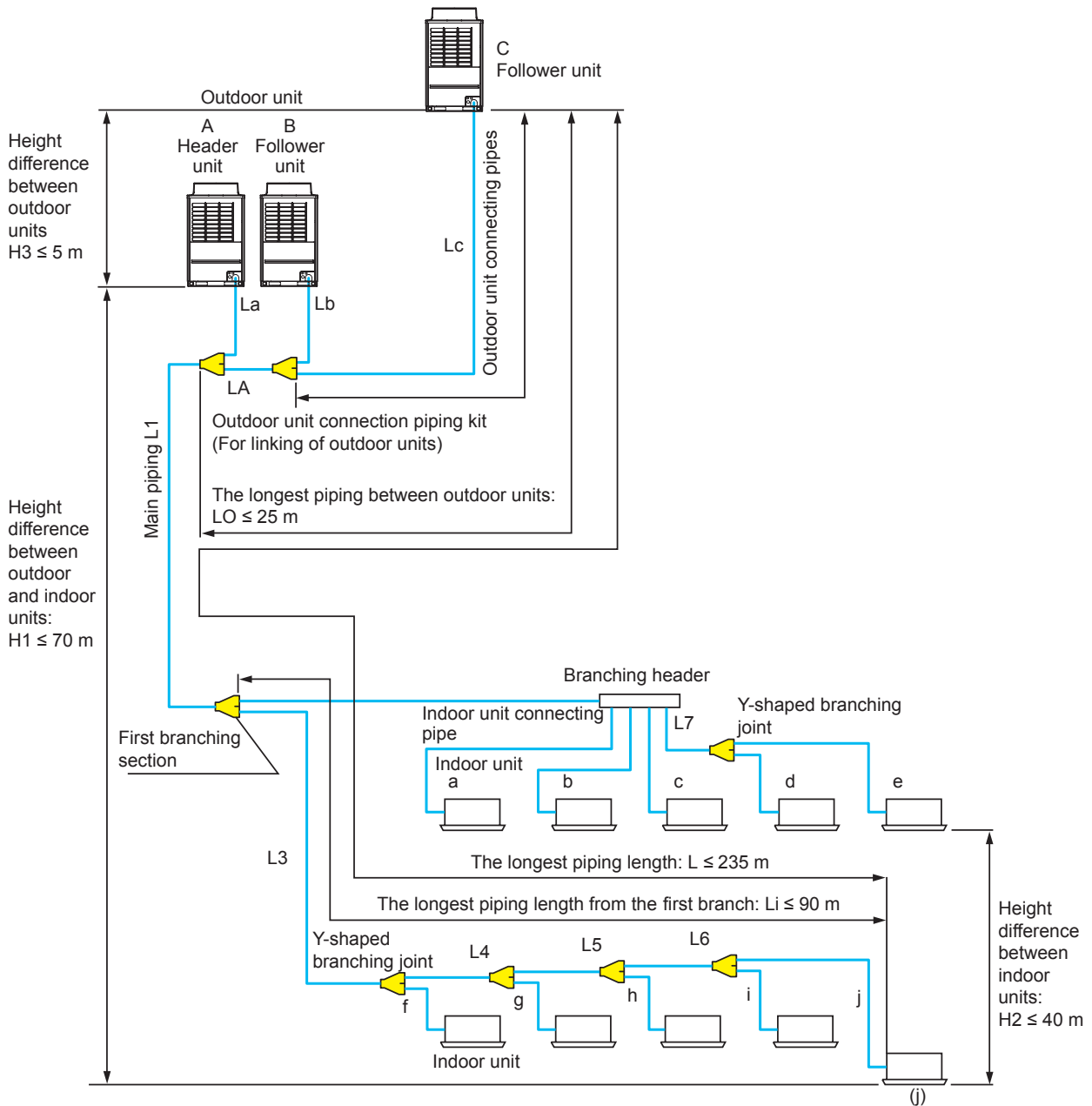
(*2): If the height difference ($H1$) between indoor and outdoor unit exceeds 3 m, set 65 m or less.

(*3): If the max. combined outdoor unit capacity is 54HP or more, then max. equivalent length is 70 m or less (real length is 50 m or less).

(*4): If the height difference ($H2$) between indoor units exceeds 3 m, set 50 m or less.

For T8P - E

Allowable length of refrigerant pipes and allowable height difference between units



System restriction

Outdoor unit combination	Up to 3 units	
Total capacity of outdoor units	Up to 60 HP	
Indoor unit connection	Up to 64 units	
Total capacity of indoor units (varies depending on the height difference between indoor units.)	$H2 \leq 15m$	135% of outdoor units' capacity
	$15m < H2$	105% of outdoor units' capacity

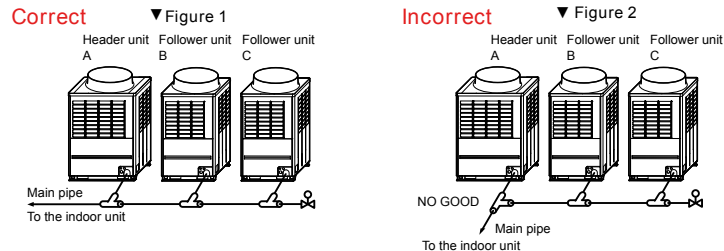
Note

- (*1): (D) is outdoor unit furthest from the 1st branch and (j) is the indoor unit furthest from the 1st branch.
- (*2) :If the height difference (H1) between indoor and outdoor unit exceeds 3 m, set 65 m or less.
- (*3) :If the max. combined outdoor unit capacity is 54HP or more, then max. equivalent length is 70 m or less (real length is 50 m or less).
- (*4) :If the height difference (H2) between indoor units exceeds 3 m, set 50 m or less.

Cautions for installation

- Set the outdoor unit first connected to the bridging pipe to the indoor units as the header unit.
- Install the outdoor units in order of their capacity codes: A (header unit) \geq B \geq C
- When connecting gas pipes to indoor units, use Y-shaped branching joints to keep pipes level.
- When piping to outdoor units using Outdoor unit connection piping kits, intersect the pipes to the outdoor unit and those to indoor units at a right angle as shown in figure 1 on "Installation of the outdoor unit". Do not connect them as in figure 2 on "Installation of the outdoor unit".

Liquid piping



Allowable length and allowable height difference of refrigerant piping

Item		Allowable value	Piping section	
Piping length	Total extension of pipe (Liquid pipe, real length)	Below 34HP	300m	
		34HP or more	1000m (*6)	
	Farthest piping Length L (*1)	Equivalent length	235m	LA + L1 + L3 + L4 + L5 + L6 + j
		Real length	190m	
	Equivalent length of farthest piping from 1st branching Li (*1)		90m (*2)	L3 + L4 + L5 + L6 + j
	Equivalent length of farthest piping between outdoor units LO		25m	LA + Lc(LA + Lb)
	Max. equivalent length of main piping	Equivalent length	120m (*3)	L1
		Real length	100m (*3)	
	Max. equivalent length of outdoor unit connecting piping		10m	Lc(La, Lb)
Max. real length of indoor unit connecting piping		30m	a, b, c, d, e, f, g, h, i, j	
Max. equivalent length between branches		50m	L2, L3, L4, L5, L6, L7	
Difference in height	Height between indoor and outdoor units H1	Upper outdoor unit	70m (*4, *7)	-
		Lower outdoor unit	40m (*5)	-
	Height between indoor units H2		40m	-
	Height between outdoor units H3		5m	-

(*1) : (C) is outdoor unit furthest from the 1st branch and (j) is the indoor unit furthest from the 1st branch.

(*2) : If the height difference (H1) between indoor and outdoor unit exceeds 3m, set 65m or less.

(*3) : If the max. combined outdoor unit capacity is 46HP or more, then max. equivalent length is 70m or less (real length is 50m or less).

(*4) : If the height difference (H2) between indoor units exceeds 3m, set 50m or less.

(*5) : If the height difference (H2) between indoor units exceeds 3m, set 30m or less.

(*6) : Total charging refrigerant is 140kg or less.

(*7) : Extension up till 90m is possible with conditions below.

- Outdoor Temperature Cooling : 10°C to 46°C (Dry-bulb temp.)

Heating : -5°C to 15.5°C (Wet-bulb temp.)

- Equivalent length of farthest piping from 1st branching Li < 50m

- Real length of main piping L1 < 100m

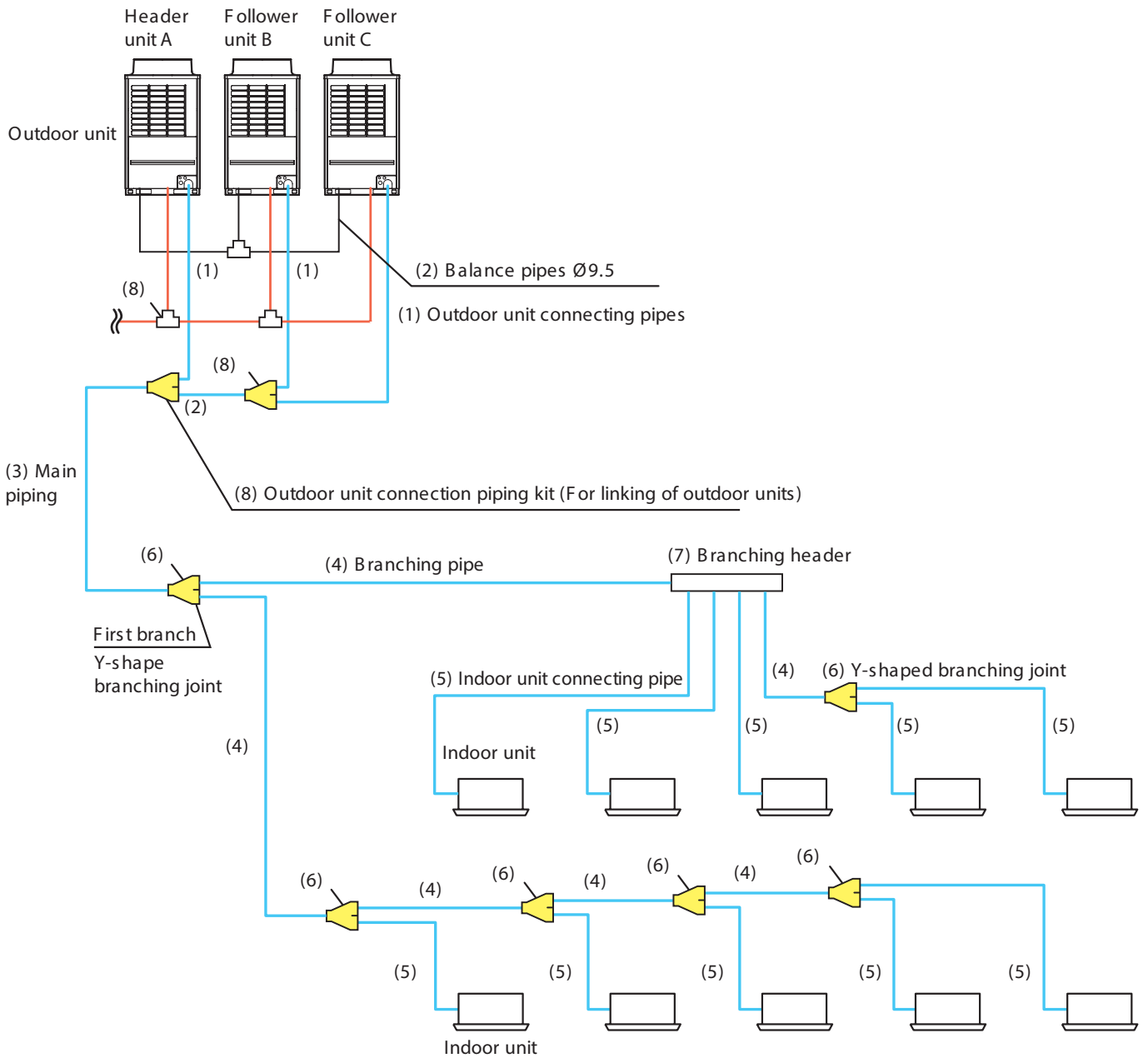
- Height difference between indoor units H2 < 3m

- Total capacity of combined indoor units : 90%-105%

- Single CDU, and up to 20HP

- Minimum capacity of connectable indoor unit : 4HP or Larger

Selection of refrigerant piping

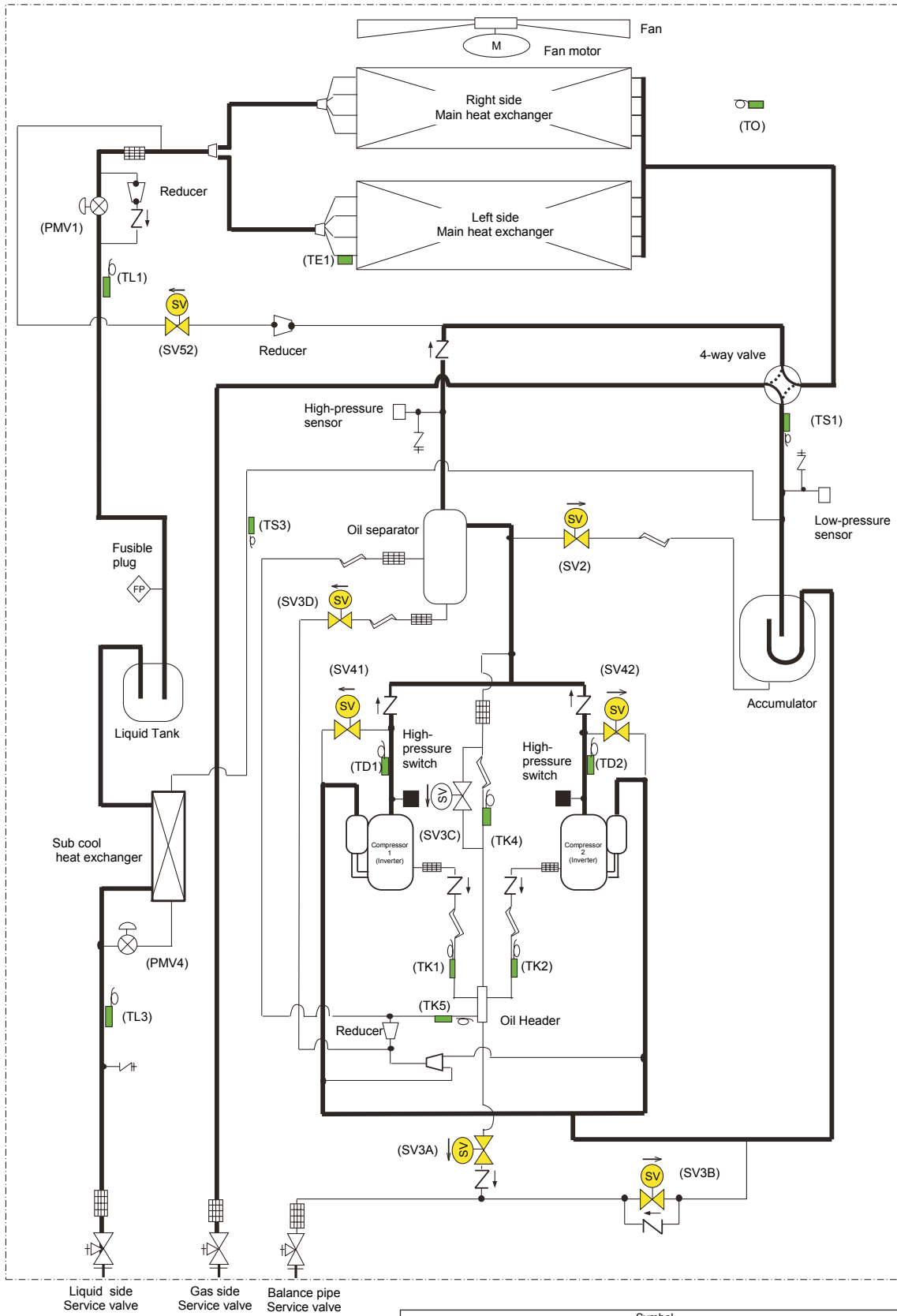


No.	Piping parts	Name	Selection of pipe size	Remarks																																						
(1)	Outdoor unit ↓ Outdoor unit connection piping kit	Outdoor unit connecting pipe	Connecting pipe size of outdoor unit	Same as connecting pipe size of the outdoor unit. (MMY-MAP14B6* use table MMY-MAP1206*) (MMY-MAP18B6* use table MMY-MAP1606*)																																						
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No.	Piping parts	Name	Selection of pipe size	Remarks				
(4)	Branching section ↓ Branching section	Branching pipe	Pipe size between branching sections		Pipe size differs based on the total capacity code value of indoor units at the downstream side. If the total capacity code value of indoor units exceeds that of the outdoor units, apply the capacity code of the outdoor units.			
			Total capacity codes of indoor units at downstream side			Gas side	Liquid side	
			Equivalent to HP	Equivalent to capacity				
			below 2.4	below 6.6		Ø12.7	Ø9.5	
			2.4 to below 6.4	6.6 to below 18.0		Ø15.9	Ø9.5	
			6.4 to below 12.2	18.0 to below 34.0		Ø22.2	Ø12.7	
			12.2 to below 20.2	34.0 to below 56.5		Ø28.6	Ø15.9	
			20.2 to below 22.4	56.5 to below 62.5		Ø28.6	Ø19.1	
			22.4 to below 25.2	62.5 to below 70.5		Ø34.9	Ø19.1	
25.2 to below 35.2	70.5 to below 98.5	Ø34.9	Ø19.1					
35.2 or more	98.5 or more	Ø41.3	Ø22.2					
(5)	Branching section ↓ Indoor unit	Indoor unit connecting pipe	Connecting pipe size of indoor unit					
			Capacity rank			Gas side	Liquid side	
			007 to 012 type	15m or less real length		Ø9.5	Ø6.4	
				Real length exceeds 15m		Ø12.7	Ø6.4	
			015 to 018 type				Ø12.7	Ø6.4
			024 to 056 type				Ø15.9	Ø9.5
072 to 096 type			Ø22.2	Ø12.7				
(6)	Branching section	Y-shaped branching joint	Selection of branching section (Y-shaped branching joint)					
			Total capacity code of indoor units		Model name			
			Equivalent to HP	Equivalent to capacity				
			Y-shape branching joint	Below 6.4	Below 18.0	RBM-BY55E		
				6.4 to below 14.2	18.0 to below 40.0	RBM-BY105E		
14.2 to below 25.2	40.0 to below 70.5	RBM-BY205E						
25.2 or more	70.5 or more	RBM-BY305E						
(7)	Branching section	Branching header	Selection of branching section (Branching header)					
			Total capacity code of indoor units		Model name			
			Equivalent to HP					
			*2 Branching header	For 4 branches	Below 14.2	Below 40.0	RBM-HY1043E	
					14.2 to below 25.2	40.0 to below 70.5	RBM-HY2043E	
				For 8 branches	Below 14.2	Below 40.0	RBM-HY1083E	
					14.2 to below 25.2	40.0 to below 70.5	RBM-HY2083E	
			*2: Up to a total of 6.0 maximum equivalent to HP capacity codes is connectable to one line after branching of header. When the total capacity codes of all outdoor units are 12 to below 26 (equivalent to HP) and you use a branching header for the first branching section, use a RBM-HY2043E or RBM-HY2083E regardless of the total capacity codes of outdoor units at downstream side. In addition, you cannot use a branching header for the first branching section when the total capacity codes of all outdoor units are over 26 (equivalent to HP).					
(8)	Branching section	Outdoor unit connection piping kit (For linking of outdoor units)	Outdoor unit connection piping kit (For linking of outdoor units)					
			Total capacity code of outdoor units ^{*3}		Model name			
			Equivalent to HP					
			Outdoor unit connection piping kit (For linking of outdoor units)	Below 26.0	Below 73.0	RBM-BT14E		
26.0 or more	73.0 or more	RBM-BT24E						
*3: Downstream side when regarding the main piping as the start point								

Outdoor Unit (8, 10, 12HP)

Model: MMY-MAP0806*, MMY-MAP1006*, MMY-MAP1206*



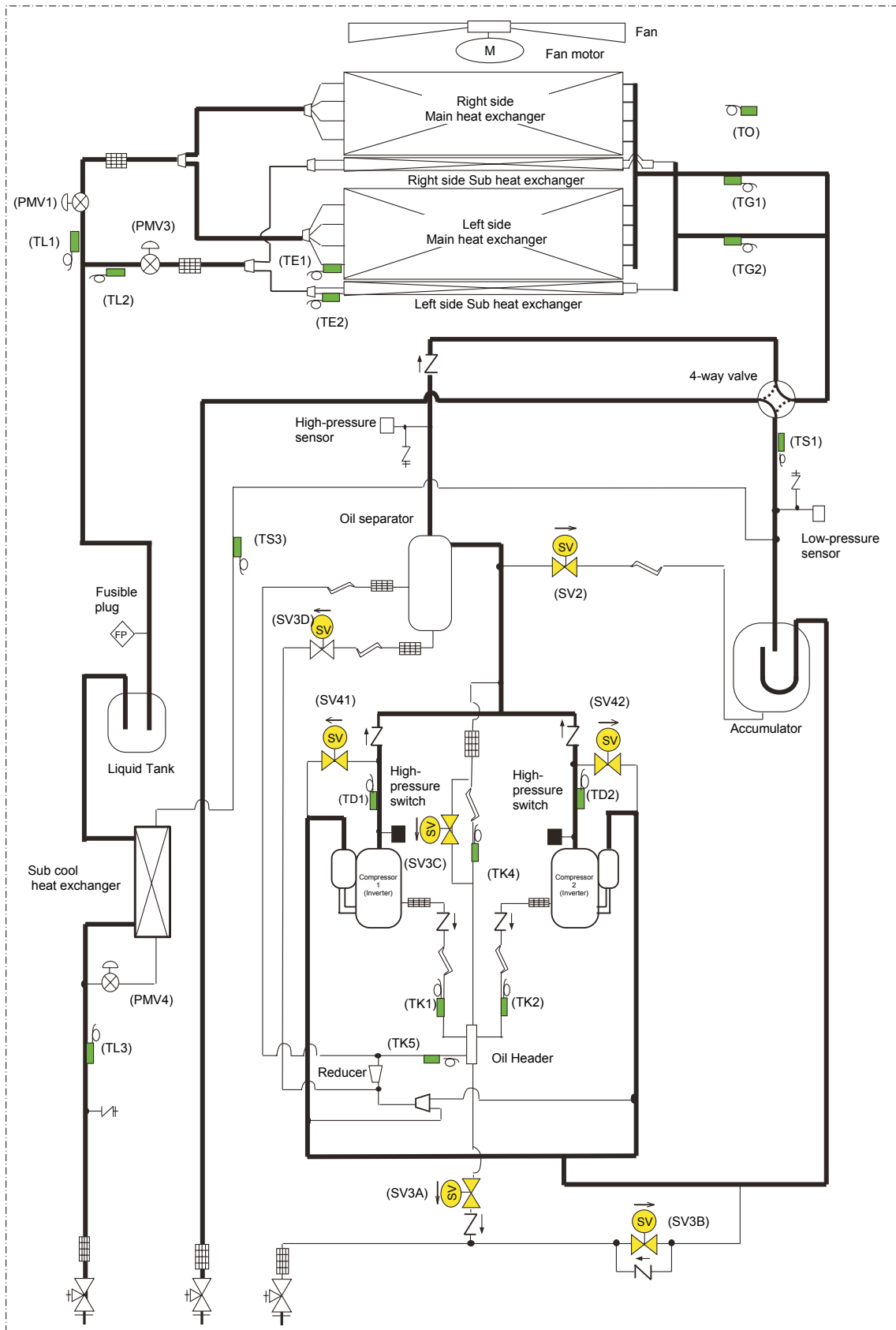
Symbol						
Solenoid valve	Capillary tube	Check valve	Check joint	Strainer	Temperature sensor	Distributor

Refrigerant Piping Systematic

<Cooling, Heat pump type>

Outdoor Unit (14, 16HP)

Model: MMY-MAP1406* , MMY-MAP1606*

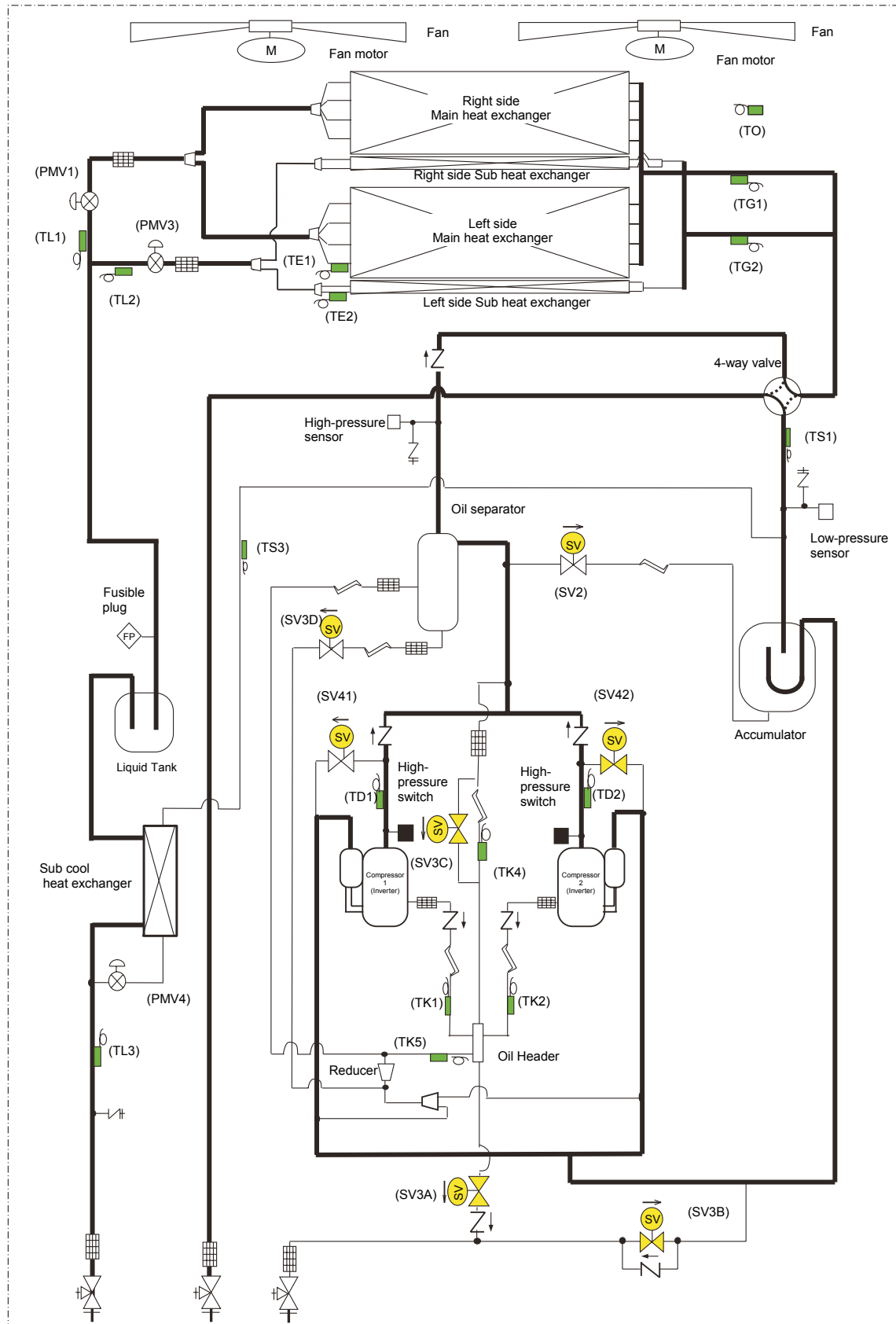


Liquid side Service valve Gas side Service valve Balance pipe Service valve

Symbol						
Solenoid valve	Capillary tube	Check valve	Check joint	Strainer	Temperature sensor	Distributor

Outdoor Unit (18, 20, 22HP)

Model: MMY-MAP1806*, MMY-MAP2006*, MMY-MAP220*



Liquid side Service valve Gas side Service valve Balance pipe Service valve

Symbol						
Solenoid valve	Capillary tube	Check valve	Check joint	Strainer	Temperature sensor	Distributor

Functional part name		Functional outline
Solenoid valve	SV2	(Hot gas bypass) (Connector CN311: White) 1) Low pressure release function 2) High pressure release function 3) Gas balance function during stop time
	SV3A	(Connector CN321: White) 1) Supplies oil reserved in the oil header during ON time.
	SV3B	(Connector CN321: White) 1) Returns oil supplied in the balance pipe to the compressor.
	SV3C	(Connector CN321: White) 1) Pressurizes oil reserved in the oil header during ON time.
	SV3D	(Connector CN322: White) 1) Reserves oil in the oil separator during OFF time. 2) Returns oil reserved in the oil separator to the compressor during ON time.
	SV41 SV42	(Start assure valve of compressor) (SV41 Connector CN312: Blue, SV42 Connector CN312: Blue.) 1) For gas balance start 2) High pressure release function 3) Low pressure release function
	SV51	(Connector CN314: White) 1) Gas injection function during hot gas defrost in heating operation
	SV52	(Connector CN314: White) 1) Preventive function for high-pressure rising in heating operation 2) Gas injection function during hot gas defrost in heating operation
4-way valve	(Connector CN317: Blue) 1) Cooling/heating exchange 2) Reverse defrost	
Pulse motor valve	PMV1, 3	(PMV1 Connector CN300: White, PMV3 Connector CN302: Blue) 1) Super heat control function in heating operation 2) Liquid line shut-down function while follower unit stops 3) Subcool adjustment function in cooling operation 4) Exchange function between main and sub exchangers in cooling operation
	PMV4	(Connector CN303: Red) 1) Subcool adjustment function in cooling operation 2) Liquid bypass function for discharge temperature release (cooling bypass function)
Oil separator		1) Prevention for rapid decreasing of oil (Decreases oil flowing to the cycle) 2) Reserve function of surplus oil
Temp. Sensor	TD1 TD2	(TD1 Connector CN502: White, TD2 Connector CN503: Pink) 1) Protection of compressor discharge temp. 2) Used for discharge temperature release
	TS1	(Connector CN505: White) 1) Controls PMV1 super heat in heating operation 2) Protection of compressor
	TS3	(Connector CN903: Purple) 1) Controls PMV4 super heat in heating operation
	TG1 TG2	(TG1 Connector CN525: Blue, TG2 Connector CN526: White) 1) Controls PMV1 super heat in heating operation
	TE1 TE2	(TE1 Connector CN520: Green, TE2 Connector CN521: Red) 1) Controls defrost in heating operation 2) Controls outdoor fan in heating operation
	TK1,TK2 TK4,TK5	(TK1 Connector CN531: Black, TK2 Connector CN532: Green, TK4 Connector CN534: Yellow, TK5 Connector CN535: Red) 1) Judges oil level of the compressor
	TL1,TL2 TL3	(TL1 Connector CN523: White, TL2 Connector CN524: Gray, TL3 Connector CN902: Pink) 1) Detects subcool in cooling operation
	TO	(Connector CN507: Yellow) 1) Detects outside temperature
Pressure sensor	High pressure sensor	(Connector CN501: Red) 1) Detects high pressure and controls compressor capacity 2) Detects high pressure in cooling operation, and controls the fan in low ambient cooling operation 3) Detects subcool in indoor unit in heating operation
	Low pressure sensor	(Connector CN500: White) 1) Detects low pressure in cooling operation and controls compressor capacity 2) Detects low pressure in heating operation, and controls the super heat
Heater	Compressor case heater	(Compressor 1 Connector CN331: White, Compressor 2 Connector CN332: Blue.) 1) Prevents liquid accumulation to compressor
	Accumulator case heater	(Connector CN334: Red) 1) Prevents liquid accumulation to accumulator
Balance pipe		1) Oil balancing in each outdoor unit
High pressure switch (4.15MPa)	High pressure SW 1 High pressure SW 2	(High pressure SW 1,2 Connector CN251: BLK) 1) Piping resisting pressure protection

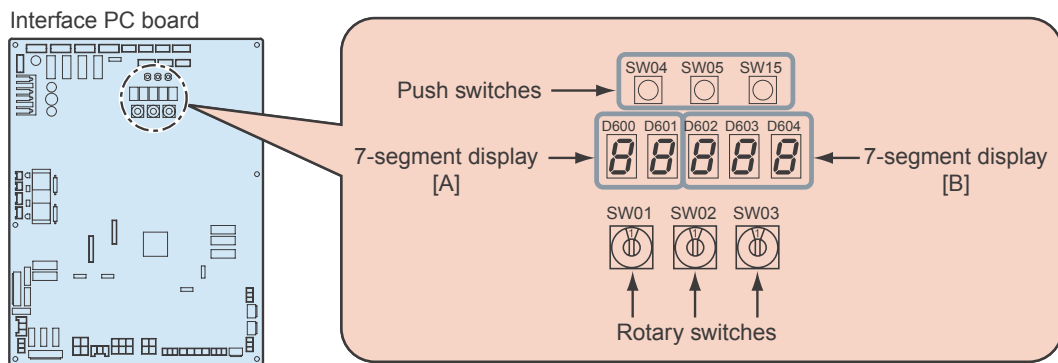
Check at Main Power-on

After turning on the main power of the indoor units and outdoor unit in the refrigerant line to conduct a test operation, check the following items in each outdoor and indoor unit.

(After turning on the main power, be sure to check in order: indoor unit → outdoor unit.)

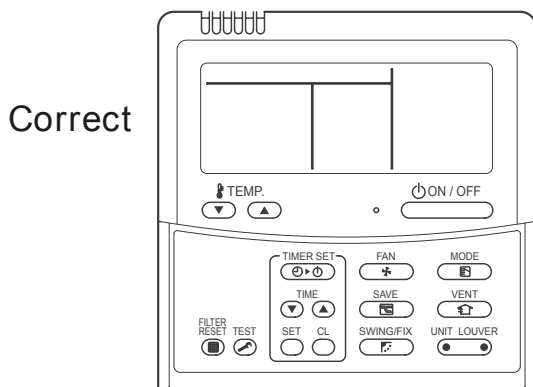
<Check on the outdoor unit>

- (1) Check that all the rotary switches, SW01, SW02, and SW03, on the interface PC board of the header unit are set to "1."
- (2) If another check code is displayed on the 7-segment display [B], remove the cause of the problem referring to Section, "TROUBLESHOOTING".
- (3) Check that "L08" is displayed on the 7-segment display [B] on the interface PC board of the header unit.
(L08: Indoor address not set up)
(If the address setup operation has already been completed during servicing, etc., the above check code is not displayed, and "U1" is displayed on the 7-segment display [A].)



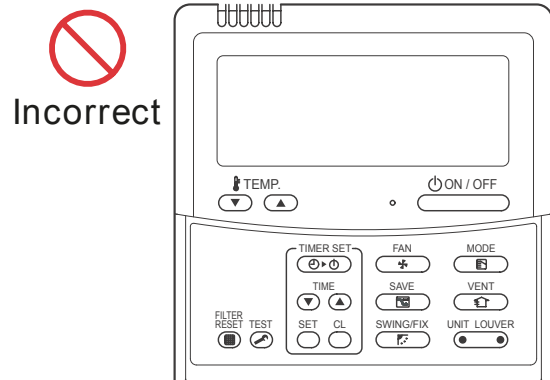
<Check on the indoor unit>

- (1) Display check on the remote controller (in the case of a wired remote controller)
Check that a frame, as shown in the following figure at left, is displayed on the LC display section of the remote controller.



Correct

Normal status
(power supplied and operation stopped)



Incorrect

When power is not supplied normally

If no frame is displayed, as shown in the above figure at right, the remote controller does not have a normal supply of power; check the following items.

- Check the power supply of the indoor unit.
- Check the cabling between the indoor unit and the remote controller.
- Check whether there is a cutoff of wire around the indoor control PC board or not, and check for connection failures of the connectors.
- Check for failure of the transformer for the indoor electrical control box.
- Check for failure of the indoor control PC board.

Address Setup

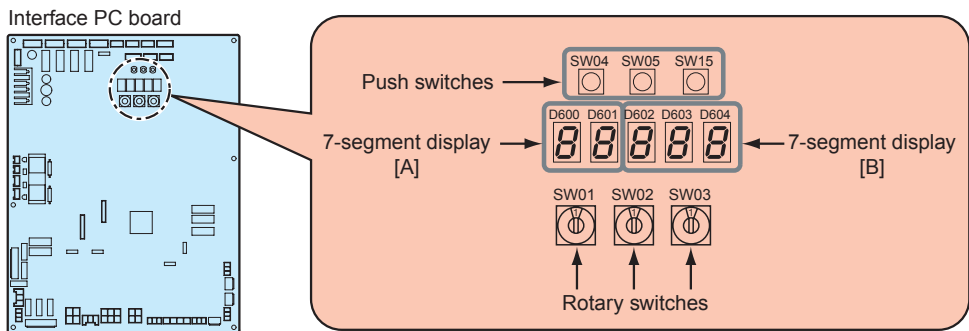
This product requires address setup before operation. Follow this procedure for address setup.

Precautions

- (1) Address setup is not performed simply by turning on the power supply.
- (2) For indoor units, address setup can be done either by “manual address setup” or “by automatic address setup”
 Automatic address setup: Setup from SW15 on the interface PC board of the header unit
 Manual address setup: Setup from the wired remote controller. (For details, refer to “Address Setup Procedure.”)
- (3) Automatic setup usually takes about 5 minutes per line. In some cases, however, it may take up to 10 minutes.
- (4) It is unnecessary to operate the air conditioner to achieve address setup.

Address Setup and Check Procedure

Procedure	Item	Operation and check contents																													
1	Indoor unit power-on	Turn on the power of the indoor unit for the refrigerant line for which the address is to be set up.																													
2	Outdoor unit power-on	Turn on the power of all the outdoor units for the refrigerant line for which the address is to be set up .																													
3	7-segment display check	Check that “L08” is displayed on the 7-segment display [B] on the interface PC board of the header unit in the system where the address is to be set up.																													
4	Address setup start	Confirm the items in “Address Setup Procedure,” and then set up the address according to the operation procedure. (Be careful to note that the setup operation may differ in group control and central control systems.) Note: The address cannot be set up if switches are not operated.																													
5	Display check after setup	<ul style="list-style-type: none"> • After address setup, “U1” “ ” is displayed on the 7-segment display. • For follower outdoor units, “U2” to “U3” are displayed on the 7-segment display [A]. • If an error code is displayed on the 7-segment display [B], remove the cause of the problem referring to “TROUBLESHOOTING”. 																													
6	System information check after setup	Using the 7-segment display function, check the system information of the scheduled system. (This check is executed on the interface PC board of the header unit.) <table border="1" style="margin: 10px auto;"> <thead> <tr> <th rowspan="2"></th> <th colspan="3">Rotary switch setup</th> <th colspan="2">7-segment display</th> </tr> <tr> <th>SW01</th> <th>SW02</th> <th>SW03</th> <th>[A]</th> <th>[B]</th> </tr> </thead> <tbody> <tr> <td>System capacity</td> <td>1</td> <td>2</td> <td>3</td> <td>[Number of horsepower]</td> <td>[Ton]</td> </tr> <tr> <td>Number of connected outdoor units</td> <td>1</td> <td>3</td> <td>3</td> <td>[Number of units]</td> <td>[P]</td> </tr> <tr> <td>Number of connected indoor units</td> <td>1</td> <td>4</td> <td>3</td> <td>[Number of connected units]</td> <td></td> </tr> </tbody> </table> After the above checks, return rotary switches SW01, SW02, and SW03 to 1/1/1.		Rotary switch setup			7-segment display		SW01	SW02	SW03	[A]	[B]	System capacity	1	2	3	[Number of horsepower]	[Ton]	Number of connected outdoor units	1	3	3	[Number of units]	[P]	Number of connected indoor units	1	4	3	[Number of connected units]	
	Rotary switch setup			7-segment display																											
	SW01	SW02	SW03	[A]	[B]																										
System capacity	1	2	3	[Number of horsepower]	[Ton]																										
Number of connected outdoor units	1	3	3	[Number of units]	[P]																										
Number of connected indoor units	1	4	3	[Number of connected units]																											



Cautions for installation

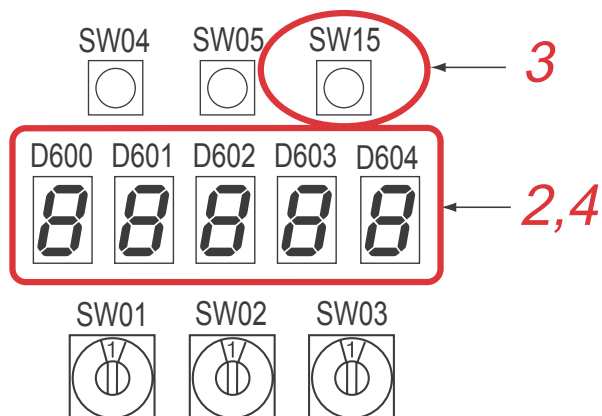
No central control: go to Address setting procedure 1
 Central control of 2 or more refrigerant lines: go to Address setting procedure 2

(Example)	When controlling a single refrigerant line centrally	When controlling 2 or more refrigerant lines centrally
Address setting procedure	To procedure 1	To procedure 2
System wiring diagram		

Address setting procedure 1

- 1 Turn on indoor units first, and then turn on outdoor units.
- 2 About one minute after turning the power on, confirm that the 7-segment display on the interface P.C. board of the header outdoor unit indicates **U. 1. L08 (U. 1. flash)**.
- 3 Push SW 15 to start the automatic address setting.
(It may take up to 10 minutes (normally about 5 minutes) to complete one line's setting.)
- 4 The 7-segment display indicates **Auto 1 → Auto 2 → Auto 3**.
After the indication, **U. 1. --- (U. 1. flash)** starts flashing on the display.
When the flashing stops and **U. 1. --- (U. 1. light)** remain lit on the display, the setting is complete.

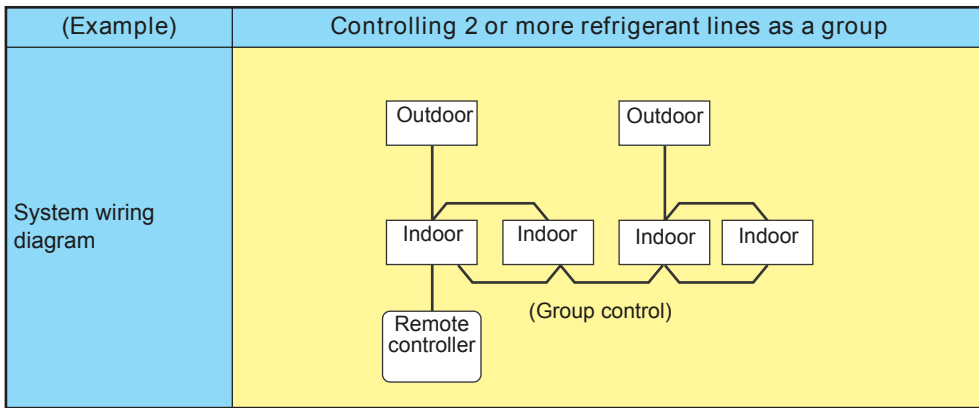
Interface P.C. board on the header outdoor unit



- 5 When using a central control, connect a relay connector between [U1, U2] and [U3, U4] terminals.

REQUIREMENT

- When 2 or more refrigerant lines are controlled as a group, be sure to turn on all the indoor units in the group before setting addresses.
- If you set the unit addresses of each line separately, each line's header indoor unit is set separately. In that case, the CODE No. "L03" (Indoor header unit overlap) is indicated as running starts. Change the group address to make one unit the header unit using wired remote controller.



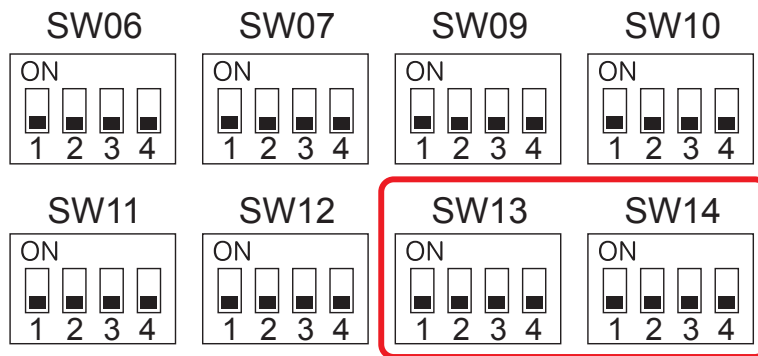
Address setting procedure 2

- 1 Set a system address for each system using SW 13 and 14 on the interface P.C. board on the header outdoor unit of each system.
(Factory default: Address 1)

NOTE

Be sure to set a unique address on each system. Do not use a same address as another system (refrigerant line) or "Digital Inverter" side.

Interface P.C. board on the header outdoor unit



Line address switches on the outdoor interface PC board (O : switch on, X : switch off)

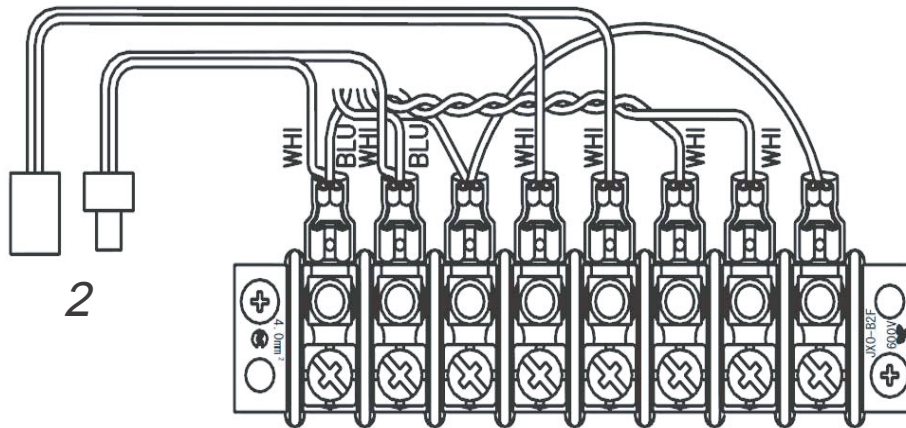
Line address	SW13				SW14			
	1	2	3	4	1	2	3	4
1				X	X	X	X	X
2				X	O	X	X	X
3				X	X	O	X	X
4				X	O	O	X	X
5				X	X	X	O	X
6				X	O	X	O	X
7				X	X	O	O	X
8				X	O	O	O	X
9				X	X	X	X	O
10				X	O	X	X	O
11				X	X	O	X	O
12				X	O	O	X	O
13				X	X	X	O	O
14				X	O	X	O	O

Line address	SW13				SW14			
	1	2	3	4	1	2	3	4
15				X	X	O	O	O
16				X	O	O	O	O
17				O	X	X	X	X
18				O	O	X	X	X
19				O	X	O	X	X
20				O	O	O	X	X
21				O	X	X	O	X
22				O	O	X	O	X
23				O	X	O	O	X
24				O	O	O	O	X
25				O	X	X	X	O
26				O	O	X	X	O
27				O	X	O	X	O
28				O	O	O	X	O

Not used for setup of line address (do not change setup.)

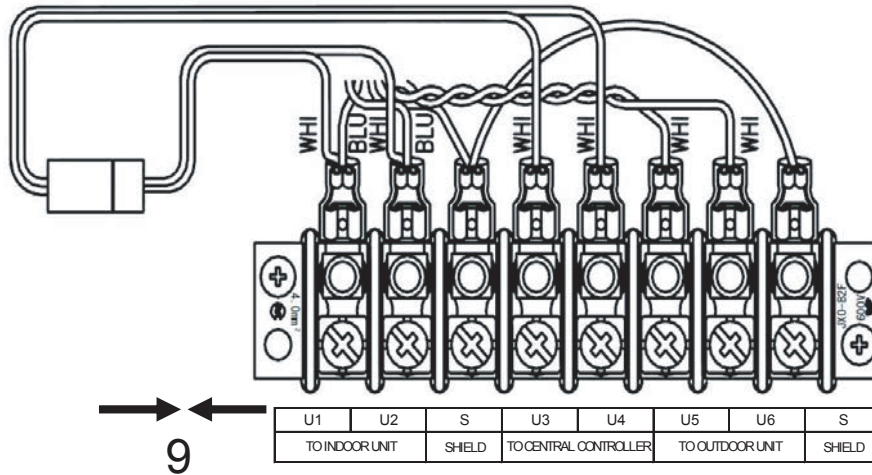
18 Address Setup

- 2 Be sure to disconnect the relay connectors between the [U1U2] and [U3U4] terminals on all the header outdoor units that will be connected to the central control. (Factory default: disconnected)



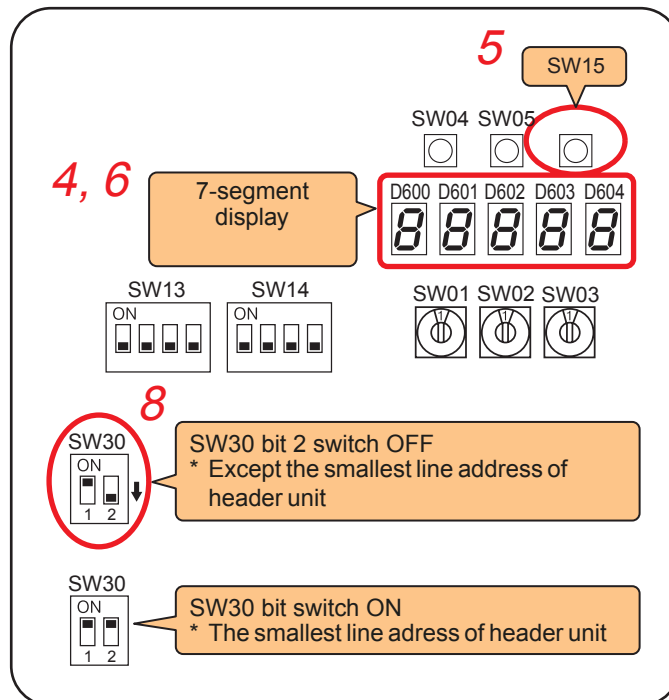
- 3 Turn on indoor units first, and then turn on outdoor units.
- 4 About 1 minute after turning the power on, confirm that the 7-segment display on the interface P.C. board of the header outdoor unit indicates **U. 1. L08 (U. 1. flash)**.
- 5 Push SW 15 to start the automatic address setting.
(It may take up to 10 minutes (normally about 5 minutes) to complete one line's setting.)
- 6 The 7-segment display indicates **Auto 1 → Auto 2 → Auto 3**.
After the indication, **U. 1. --- (U. 1. flash)** starts flashing on the display.
When the flashing stops and **U. 1. --- (U. 1. light)**, remains lit on the display, the setting is complete.
- 7 Repeat steps 4 to 6 for other refrigerant lines.
Be sure to implement a test operation prior to the actual operation in each system.

- 8 After completing address setting of all systems, turn off DIP switch 2 of SW30 on the interface P.C. boards of all the header outdoor units connected to the same central control, except the unit that has the lowest address.
(For unifying the termination of the wiring for the central control of indoor and outdoor units)
- 9 Connect the relay connectors between the [U1, U2] and [U3, U4] terminals of the header outdoor unit of each refrigerant line.



- 10 Set the central control address.
(For the setting of the central control address, refer to the installation manuals of the central control devices or “Manual address setup from the remote controller” in the next to the following page and after.)

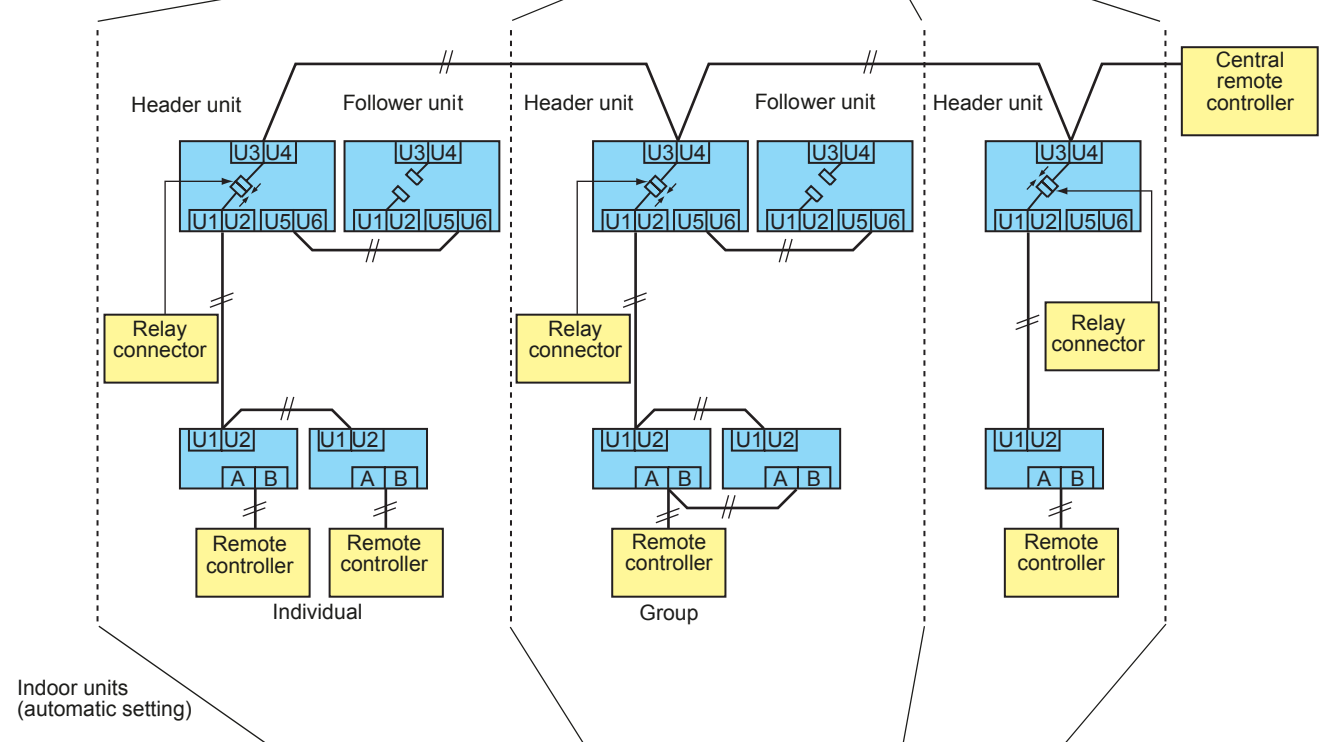
Header unit interface P.C. board



Switch setting (setting example when controlling 2 or more refrigerant lines centrally) Outdoor units (setting manually)

*The items in bold font must be set manually.

Outdoor unit's interface P.C. board	Header unit	Follower unit	Header unit	Follower unit	Header unit	Factory default
SW13, 14 (Line (system) address)	1	(No setting required)	2	(No setting required)	3	1
Bit switch 2 of SW30 (Terminator of indoor/ outdoor communication line and central control line)	ON	(No setting required)	Set to OFF after setting addresses.	(No setting required)	Set to OFF after setting addresses.	ON
Relay connector	Connect after setting addresses.	Open	Connect after setting addresses.	Open	Connect after setting addresses.	Open



Line (system) address	1	1	2	2	3
Indoor unit address	1	2	1	2	1
Group address	0	0	1	2	0

⚠ CAUTION

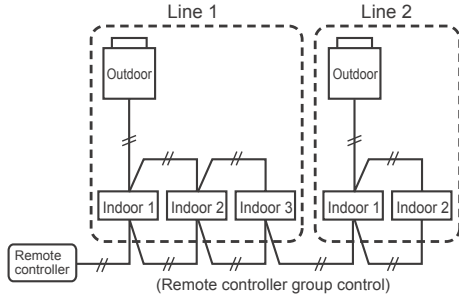
Relay connector connection

Never connect relay connectors between the [U1, U2] and [U3, U4] terminals before completing address setting of all the refrigerant lines. Otherwise, the addresses cannot be set correctly.

Manual address setup from the remote controller

With indoor wiring work completed and outdoor wiring work not done—in cases where indoor unit addresses are decided in advance from the wired remote controller, or in cases where addresses are change after address setup.

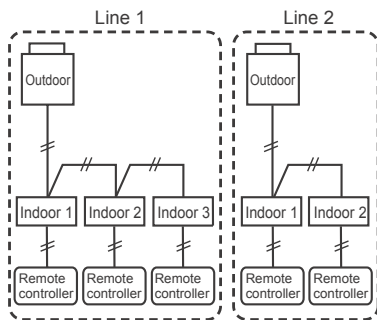
(Wiring example for 2 refrigerant lines)



Line address	1	1	1	2	2
Indoor address	1	2	3	1	2
Group address	Header	Follower	Follower	Follower	Follower

In the above example, where remote controllers are not yet wired, set the address manually after individually connecting the wired remote controller.

(Wiring during manual address setup)

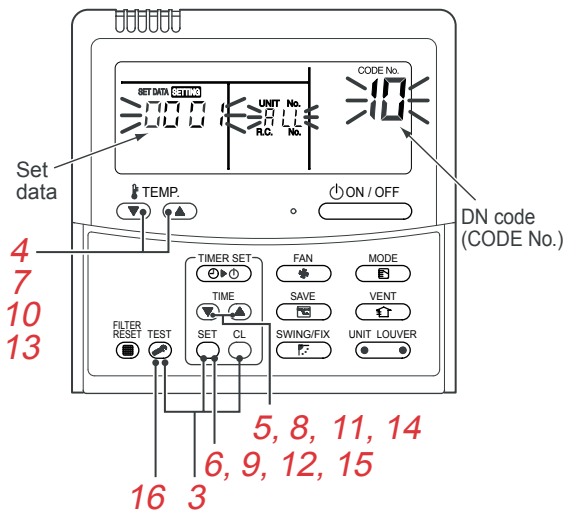


After address setup, return to the original wiring over remote controllers.

Group address

Individual: 0000
 Header unit: 0001
 Follower unit: 0002

In cases of remote controller group control



- 1 Arrange one indoor unit and one remote controller set to 1 by 1.
- 2 Turn on the power.
- 3 Push the **SET** + **CL** + **TEST** buttons simultaneously for 4 seconds or more.
LCD begins blinking.
- ▼ (Refrigerant line address)
- 4 Using the **TEMP** buttons, set the DN code to **12**.
- 5 Using the **TIME** buttons, set up the line address (match it with the line address on the interface PC board of the header unit on the same refrigerant line).
- 6 Push the **SET** button (OK when the display goes on).
- ▼ (Indoor address)
- 7 Using the **TEMP** buttons, set the DN code to **13**.
- 8 Using the **TIME** buttons, set up the indoor address. (**0001** ~ **0064**)
- 9 Push the **SET** button (OK when the display goes on).
- ▼ (Group address)
- 10 Using the **TEMP** buttons, set the DN code **14**.
- 11 Using the **TIME** buttons, set Individual = **0000**, Header unit = **0001**, Follower unit = **0002**.
- 12 Push the **SET** button (OK when the display goes on).
- ▼ (Central control address)
- 13 Using the **TEMP** buttons, set DN code to **03**.
- 14 Using the **TIME** buttons, set up the central control address. (**0001** ~ **0064**)
- 15 Push **SET** button. (OK when display goes on).
- 16 Push the **TEST** button.
Setup is finished ("Setting up" blinks; when "Setting up" goes off, operation is possible).
- 17 Return to the original wiring over remote controllers.

NOTE

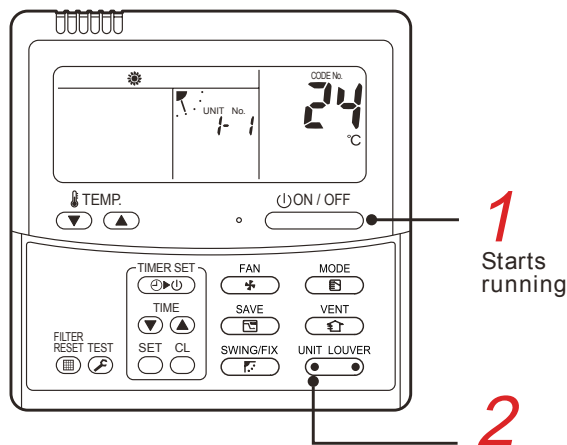
- (1) When setting the line address from the remote controller, do not use addresses 29 and 30. Addresses 29 and 30 cannot be set up on the outdoor unit. If they are incorrectly used, the code "E04" (indoor/outdoor communication circuit error) is output.
- (2) When manual address setup has been done from a remote controller, and central control over refrigerant lines is to be done, setup the header unit of each line as follows:
 - Using SW13 and SW14 on the interface PC board of the header unit of each line, setup the line address for each line.
 - Except for the line with the smallest line address number, set SW03-bit 2 to "off" for the interface PC board of the header unit of lines connected to the same central control (put the resistance of the end terminals of the central control line, indoors and outdoors, into one).
 - Connect the relay connector between U1/U2 and U3/U4 of the header unit for each refrigerant line.
 - After that, set up the central control address. (For central control address setup, refer to the installation manual of the central control devices.)

Confirming the indoor unit addresses and the position of an indoor unit using the remote controller



◆ Confirming the numbers and positions of indoor units

To see the indoor unit address of an indoor unit which you know the position of

- ▼ When the unit is individual (the indoor unit is paired with a wired remote controller one-to-one), or it is a group-controlled one.



(Execute it while the units are running.)

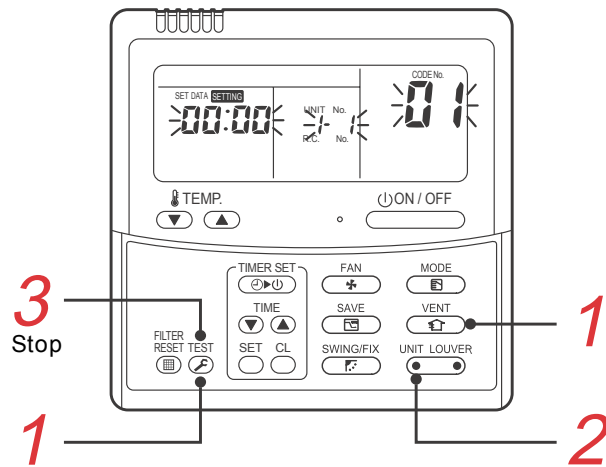
- 1 Push the  button if the units stop.
- 2 Push the  button (left side of the button).

A unit numbers **1-1** is indicated on the LCD (it will disappear after a few seconds). The indicated number shows the system address and indoor unit address of the unit.

When 2 or more indoor units are connected to the remote controller (group-controlled units), a number of other connected units appears each time you push the  button (left side of the button).





To find an indoor unit's position from its address

▼ When checking unit numbers controlled as a group



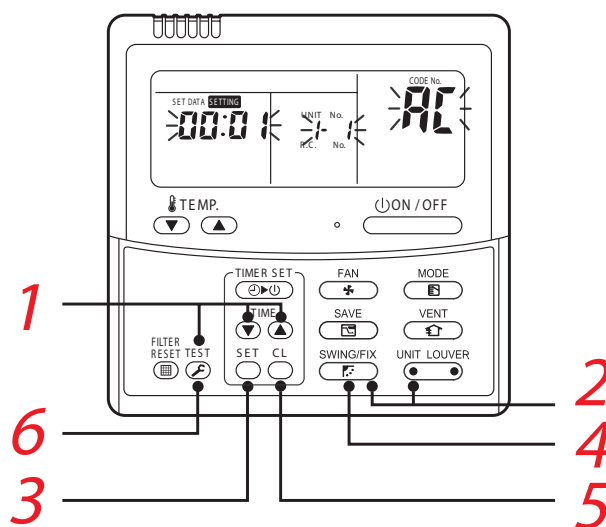
(Execute it while the units are stopped.)

The indoor unit numbers in a group are indicated one after another. The fan and louvers of the indicated units are activated.

- 1 Push and hold the  and  buttons at the same time for more than 4 seconds.
 - **ALL** appears on UNIT No. on the LCD display.
 - The fans and louvers of all the indoor units in the group are activated.
- 2 Push the  button (left side of the button). Each time you push the button, the indoor unit numbers are indicated one after another.
 - The first-indicated unit number is the address of the header unit.
 - Only the fan and louvers of the indicated indoor unit are activated.
- 3 Push the  button to finish the procedure.

All the indoor units in the group stop.

- ▼ To check all the indoor unit addresses using an arbitrary wired remote controller.
(When communication wirings of 2 or more refrigerant lines are interconnected for central control)



(Execute it while the units are stopped.)

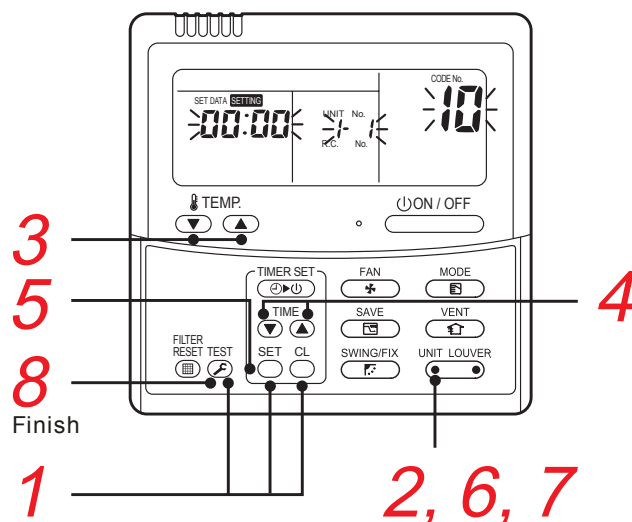
You can check indoor unit addresses and positions of the indoor units in a single refrigerant line. When an outdoor unit is selected, the indoor unit numbers of the refrigerant line of the selected unit are indicated one after another and the fan and louvers of the indicated indoor units are activated.

- 1 Push and hold the TIME / and buttons at the same time for more than 4 seconds. At first, the line 1 and CODE No. **AC** (Address Change) are indicated on the LCD display. (Select an outdoor unit.)
- 2 Push the (left side of the button) and buttons repeatedly to select a system address.
- 3 Push the button to confirm the system address selection.
 - The address of an indoor unit connected to the selected refrigerant line is indicated on the LCD display and its fan and louvers are activated.
- 4 Push the button (left side of the button). Each time you push the button, the indoor unit numbers of the selected refrigerant line are indicated one after another.
 - Only the fan and louvers of the indicated indoor unit are activated.
- ◆ To select another system address
- 5 Push the button to return to step 2.
 - After returning to step 2, select another system address and check the indoor unit addresses of the line.
- 6 Push the button to finish the procedure.

Change the indoor unit address using a remote controller

To change an indoor unit address using a wired remote controller.

- ▼ The method to change the address of an individual indoor unit (the indoor unit is paired with a wired remote controller one-to-one), or an indoor unit in a group. (The method is available when the addresses have already been set automatically.)



(Execute it while the units are stopped.)

- 1 Push and hold the , , and buttons at the same time for more than 4 seconds. (If 2 or more indoor units are controlled in a group, the first indicated UNIT No. is that of the head unit.)
- 2 Push the button (left side of the button) repeatedly to select an indoor unit number to change if 2 or more units are controlled in a group. (The fan and louvers of the selected indoor unit are activated.) (The fan of the selected indoor unit is turned on.)
- 3 Push the TEMP. / buttons repeatedly to select **13** for CODE No..
- 4 Push the TIME / buttons repeatedly to change the value indicated in the SET DATA section to that you want.
- 5 Push the button.
- 6 Push the button (left side of the button) repeatedly to select another indoor UNIT No. to change. Repeat steps 4 to 6 to change the indoor unit addresses so as to make each of them unique.
- 7 Push the button (left side of the button) to check the changed addresses.
- 8 If the addresses have been changed correctly, push the button to finish the procedure.

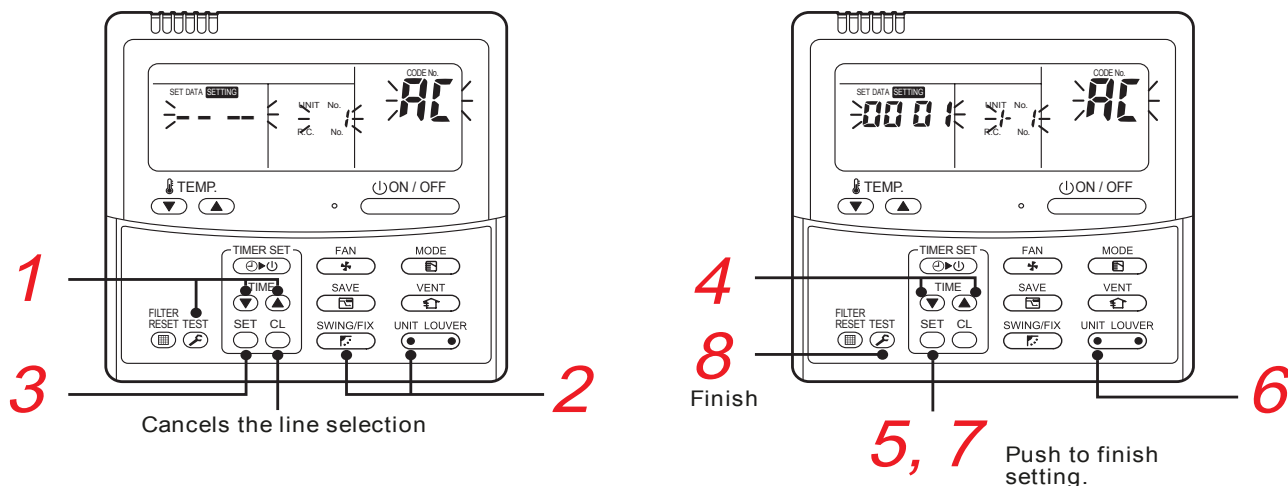
- ▼ To change all the indoor unit addresses using an arbitrary wired remote controller.
(The method is available when the addresses have already been set automatically.)

(When communication wirings of 2 or more refrigerant lines are interconnected for central control)

NOTE













You can change the addresses of indoor units in each refrigerant line using an arbitrary wired remote controller.

- * Enter the address check/change mode and change the addresses.



If no number appears on UNIT No., no outdoor unit exists on the line. Push  button and select another line following step 2.

(Execute it while the units are stopped.)

- 1 Push and hold the TIME  /  and  buttons at the same time for more than 4 seconds.
At first, the line 1 and CODE No. **AC** (Address Change) are indicated on the LCD display.
- 2 Push  (left side of the button) and  buttons repeatedly to select a system address.
- 3 Push the  button.
 - The address of one of the indoor units connected to the selected refrigerant line is indicated on the LCD display and the fan and louvers of the unit are activated.
At first, the current indoor unit address is displayed in SET DATA.
(No system address is indicated.)
- 4 Push the TIME  /  buttons repeatedly to change the value of the indoor unit address in SET DATA.
Change the value in SET DATA to that of a new address.
- 5 Push the  button to confirm the new address on SET DATA.
- 6 Push the  button (left side of the button) repeatedly to select another address to change.
Each time you push the button, the indoor unit numbers in a refrigerant line are indicated one after another. Only the fan and louvers of the selected indoor unit are activated.
Repeat steps 4 to 6 to change the indoor unit addresses so as to make each of them unique.
- 7 Push the  button.
(All the segments on the LCD display light up.)
- 8 Push the  button to finish the procedure.

Resetting the address (Resetting to the factory default (address undecided))

Method 1

Clearing each address separately using a wired remote controller.

Set the system address, indoor unit address and group address to "0099" using a wired remote controller.

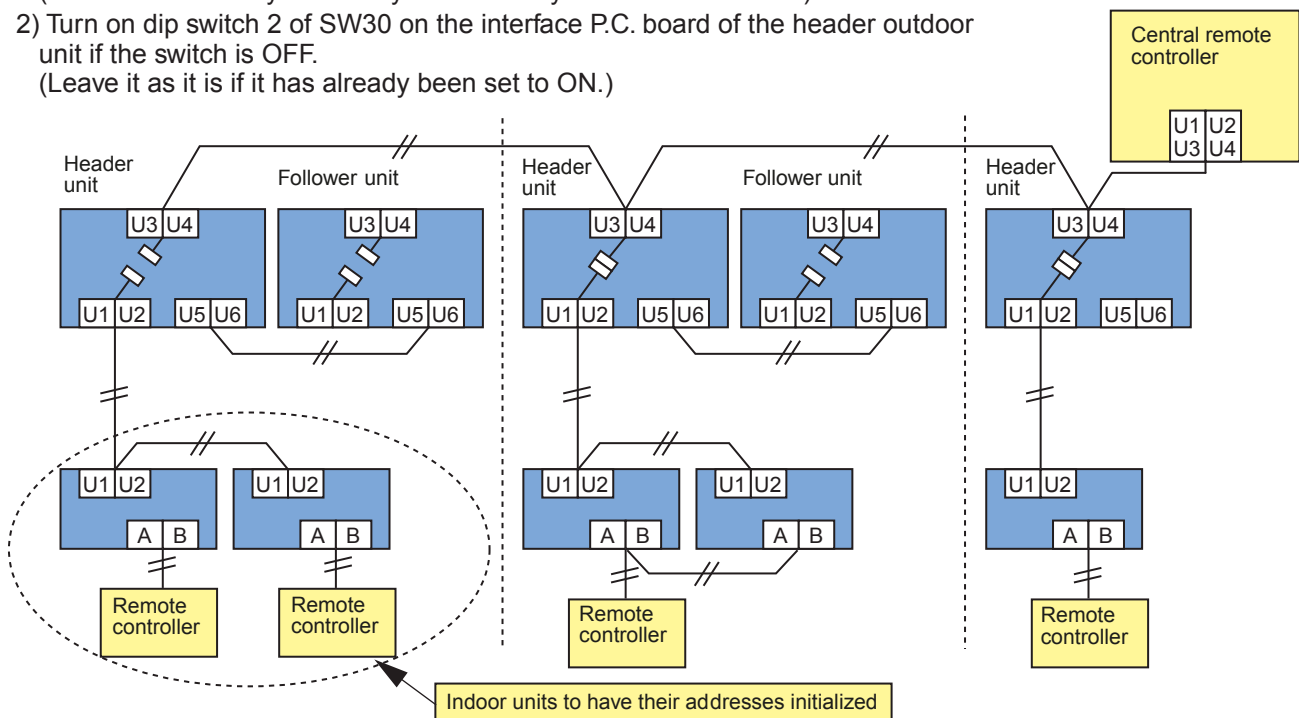
(For the setting procedure, refer to the address setting procedures using the wired remote controller on the previous pages.)

Method 2

Clearing all the indoor unit addresses on a refrigerate line at once from the outdoor unit.

1 Turn off the refrigerant line to reset to the factory default and set the header outdoor unit of the line as below.

- 1) Disconnect the relay connectors between the [U1, U2] and [U3, U4] terminals.
(Leave them as they are if they have already been disconnected.)
- 2) Turn on dip switch 2 of SW30 on the interface P.C. board of the header outdoor unit if the switch is OFF.
(Leave it as it is if it has already been set to ON.)



2 Turn on the indoor and outdoor units of the refrigerant line for which you want to initialize the addresses. About one minute after turning on the power, confirm that the 7-segment display on the header outdoor unit indicates "U.1. - -" and operate the interface P.C. board on the header outdoor unit of the refrigerant line as follows.

SW01	SW02	SW03	SW04	Clearable addresses
2	1	2	Confirm that the 7-segment display indicates "A.d.buS" and turn SW04 ON for more than five seconds.	System/indoor unit/group address
2	2	2	Confirm that the 7-segment display indicates "A.d.nEt" and turn SW04 ON for more than five seconds.	Central control address

3 Confirm that the 7-segment display indicates "A.d. c.L." and set SW01, SW02 and SW03 to 1, 1, 1 respectively.

4 After a time "U.1.L08" appears on the 7-segment display if the address clearing has been completed successfully.

If the 7-segment display indicates "A.d. n.G.", the outdoor unit may still be connected with other refrigerant lines. Check the connection of the relay connectors between [U1, U2] and [U3, U4].

NOTE

Take care to carry out the procedure above correctly; otherwise, addresses in other refrigerate lines may also be cleared.

5 Set the addresses again after finishing the clearance.

In the case of an increase in address-undefined indoor units (extension, etc.)

To set up the indoor address of a unit with an address that is undefined due to the extension of indoor units or replacement of PC board, etc., follow the methods below.

Method 1

Set up an address individually from a wired remote controller.

(Line address, Indoor address, Group address, Central address)

For the setup method, refer to "Manual address setup from the remote controller." above.

Method 2

Set up an address from the outdoor unit.

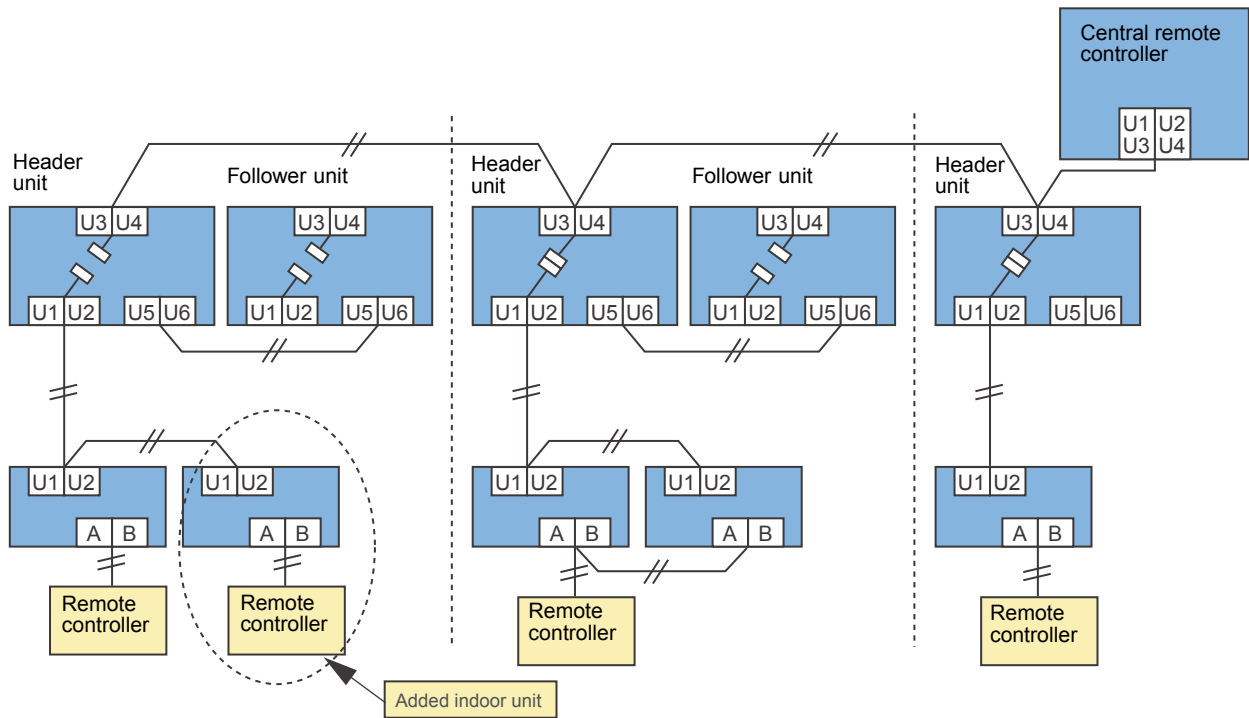
* Leave the addresses of the units for which addresses have already been set up as they are. Set up an address only for the unit where the address is undefined.

Addresses are allocated from lower numbers.

Setup procedure

Set up the outdoor header units in the refrigerant line to which indoor units have been added, as follows.

- 1 Remove the relay connector between U1/U2 and U3/U4.
- 2 If it is off, turn on SW30-bit 2 on the interface PC board at outdoor header unit side.
 - * Turn off the power, and then execute the operation.



- 3 Turn on the indoor/outdoor power for the refrigerant line for which an address is to be set up. After approximately 1 minute, check that "U.1. ---" is displayed on the 7-segment display.
- 4 Execute the following operation on the interface PC board of the header unit.

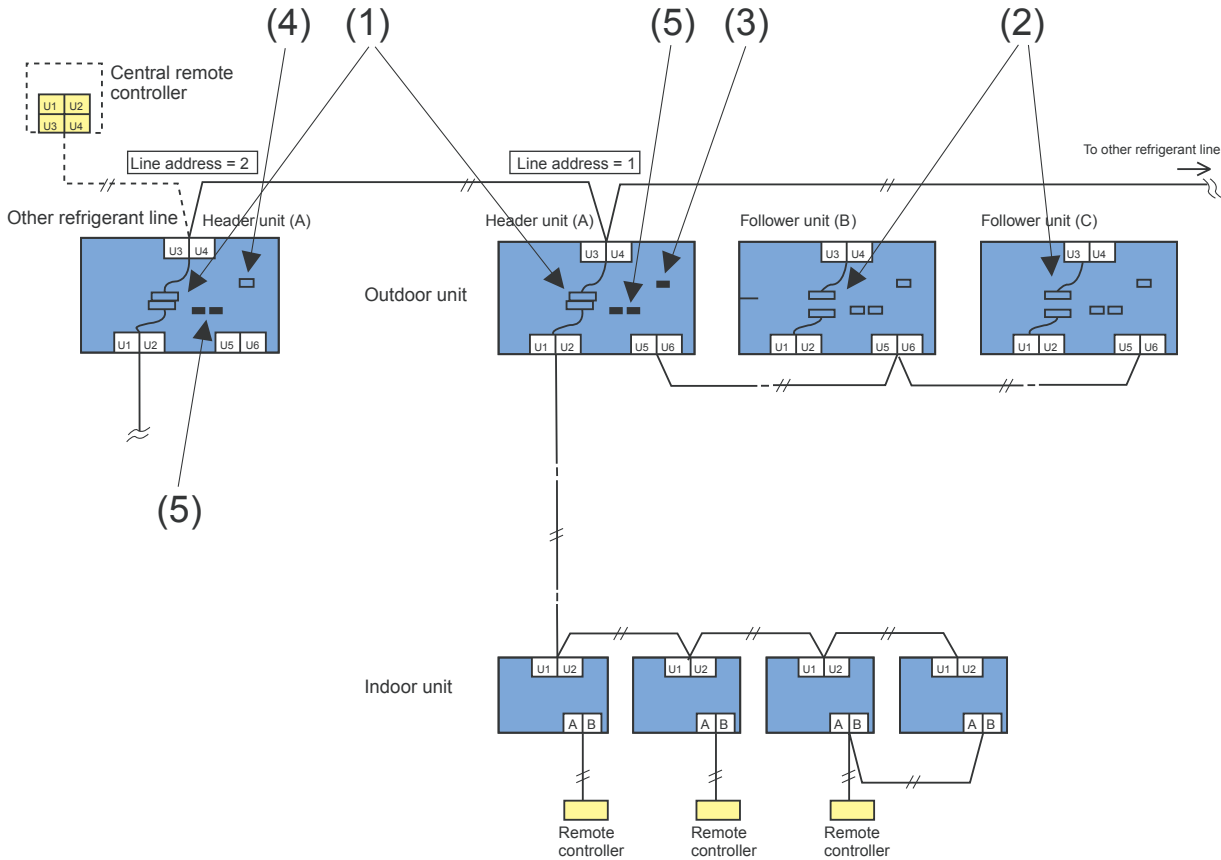
SW01	SW02	SW03	SW04
2	14	2	After checking that "In.At" is displayed on the 7-segment display, push SW04 for 5 seconds or more.

"*AUTO 1*" → "*AUTO 2*" → "*AUTO 3*" → ... → "*AUTO 9*" ... is counted and displayed on the 7-segment display.

- 5 When "*U. 1---*" is displayed on the 7-segment display, the setup operation finished. Turn off the indoor/outdoor power.
- 6 Return to the following setup as before.
 - Relay connector
 - SW30-bit 2
 - SW01, SW02, SW03

Check after Address Setup when Central Control System is connected

When the central control system is connected, check that the following setup has finished after address setup.



	Main check items	Check
Relay connector	(1) Is the relay connector of the header unit connected after address setup?	
	(2) Is the relay connector of the follower unit disconnect?	
Terminator	(3) Is the terminator (SW30-bit 2) of the header unit with the smallest line address number in the central control turned on? (Setup is unnecessary for follower units.)	
	(4) Is the terminator (SW30-bit 2) of the header units, except for the line with the smallest central control line address, turned off? (Setup is unnecessary for follower units.)	
Line address	(5) Are addresses in the line address (SW13, SW14) not duplicated in each refrigerant line?	

NOTE

The figure above does not show all the electric wires. For details, refer to the installation manuals for the outdoor unit, indoor unit, remote controller, or optional devices.

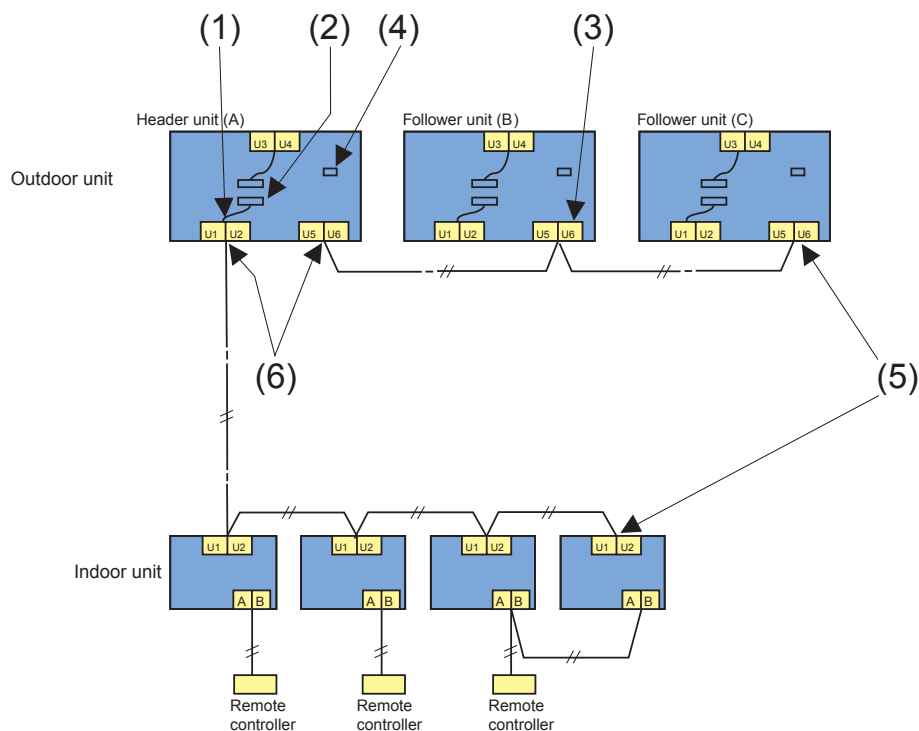
Check items before Test Operation (before powering - on)

Prior to the test operation, check the following items to verify there are no problems with the installation work.

Main check items for electric wiring

The communication system differs from that of R22 or R407 refrigerant “Modular Multi System” air conditioners. Check wiring points again carefully.

(1) In the case that a central control system is not connected:



Main check items	Check
(1) Are the indoor and outdoor communication lines of the header unit connected to the U1/U2 terminals?	
(2) Is the relay connector between the U1/U2 terminal and the U3/U4 terminal disconnect? (Set up at shipment from the factory)	
(3) Is the communication line between outdoor units connected to the U5/U6 terminal?	
(4) Is the terminator (SW30-bit 2) on the interface PC board of the header unit turned on? (Set up at shipment from the factory)	
(5) Is the terminator of the shield wire open?	
(6) Is the terminator of the shield wire earthed at the header unit side?	

NOTE

The figure above does not show all the electric wires. For details, refer to the installation manuals for the outdoor unit, indoor unit, remote controller, or optional devices.

Checklist 1

Using Checklist 1, check that there are no problems with the installation work.

Is the capacity of the circuit breaker (Earth leakage breaker) appropriate?	Outdoor total capacity <input type="text"/> A	Header unit (A) <input type="text"/> A	Indoor unit <input type="text"/> A
		Follower unit (B) <input type="text"/> A	
		Follower unit (C) <input type="text"/> A	
Is the gauge of the power cable correct?		Header unit (A) <input type="text"/> mm ²	Indoor unit <input type="text"/> mm ²
		Follower unit (B) <input type="text"/> mm ²	
		Follower unit (C) <input type="text"/> mm ²	
Is the control communication line correct?		Indoor-outdoor connection terminals (U1, U2) <input type="text"/>	
		Outdoor-outdoor connection terminals (U5, U6) <input type="text"/>	
		Central control system connection terminals (U3, U4) <input type="text"/>	
Is the power of indoor units supplied collectively?			
Is it grounded to earth?			
Is the resistance sufficient? (10MΩ or higher)		<input type="text"/> 10MΩ or higher	
Is the main power voltage sufficient? (within 380-415 V ± 10%)		<input type="text"/> V	
Is the diameter of connecting pipe correct?			
Is the branch kit correct?			
Is the water drain of the indoor unit arranged so that it flows without accumulation?			
Is the heat insulation of pipes sufficient? (connecting pipes, branch kit)			
Is there no short circuit of discharge air in the indoor/outdoor units?			
After an airtightness test of the pipes, are vacuuming and adding of refrigerant executed?			
Are the valves of all the outdoor units fully opened?			
		Gas side	Liquid side
		Balance side	
	Header unit (A)	<input type="text"/>	<input type="text"/>
	Follower unit (B)	<input type="text"/>	<input type="text"/>
	Follower unit (C)	<input type="text"/>	<input type="text"/>

Check the additional amount of refrigerant.

Cooling, Heat pump type

Checklist 2

Calculate the additional amount of refrigerant from the additional amount of refrigerant (A) by the pipe diameter on the liquid side, the pipe length to be connected, and the corrective amount of refrigerant (B) according to Indoor unit horsepower, and the corrective amount of refrigerant (C) according to system horsepower.

$$\begin{aligned} \text{Additional amount of refrigerant} &= \underbrace{\text{Actual liquid pipe length} \times \text{Additional amount of refrigerant per 1 m of liquid pipe}}_{(A)} \\ &+ \underbrace{\text{Corrective amount of refrigerant according to indoor unit horsepower}}_{(B)} + \underbrace{\text{Corrective amount of refrigerant according to system horsepower}}_{(C)} \end{aligned}$$

First, enter the total length for each liquid pipe diameter in the following table, and then calculate the additional amount of refrigerant by pipe length.

<Additional amount of refrigerant by pipe length>

Pipe diameter on the liquid side	Standard amount of refrigerant	Total pipe length on each liquid side m	Additional amount of refrigerant pipe diameter on each liquid side kg
Ø6.4	0.025 x 1.2 x	=	kg
Ø9.5	0.055 x 1.2 x	=	kg
Ø12.7	0.105 x 1.2 x	=	kg
Ø15.9	0.160 x 1.2 x	=	kg
Ø19.0	0.250 x 1.2 x	=	kg
Ø22.2	0.350 x 1.2 x	=	kg

Next, refer to the following table for the corrective amount of refrigerant (B) according to indoor unit horsepower.

<According to indoor unit horsepower>

Additional refrigerant charge amount Indoor unit	Standard Indoor uni	Fresh Air intake Indoor unit	Air to Air Heat Exchanger with DX-coil
Additional refrigerant charge amount kg/HP	0.4	0.2	0.2
Capacity of Indoor unit HP	HP	HP	HP
Corrective amount of refrigerant kg	kg	kg	kg

Next, refer to the Table 1-1~1-5 on P. 20 "Adding refrigerant" for the corrective amount of refrigerant (C) according to system horsepower.

Lastly, add the additional amount of refrigerant by pipe length (A) and the corrective amount of refrigerant by indoor unit horsepower (B) to the corrective amount of refrigerant by combined horsepower (C). This is the final additional amount of refrigerant.

If a minus sign is indicated as the result, do not reduce or add the refrigerant (= 0 kg).

<Additional amount of refrigerant>

Additional amount of refrigerant by pipe length (A) kg	kg
Corrective amount of refrigerant according to indoor unit horsepower (B) kg	kg
Corrective amount of refrigerant according to combined horsepower (C) kg	kg
Additional amount of refrigerant kg	kg

Cooling / heating test operation check

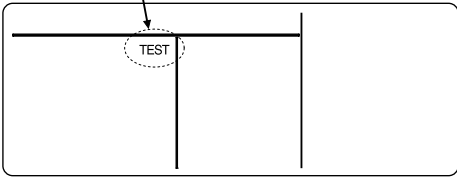

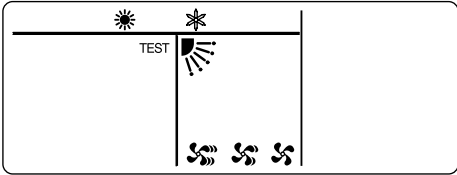


The cooling/heating test operation check can be performed on both the indoor remote control and the outdoor header unit interface PC board.

(1) Test operation start/stop operation

Test operation from the indoor remote control

- Wired remote control: Refer to the items below in "Test operation" of the wired remote control.
- Wireless remote control: Refer to the items below in "Test operation" of the wireless remote control.

▼ Wired remote control

Procedure	Operation content
1	When the Test button is pushed for 4 seconds or more, "TEST" is displayed in the display section, and the unit enters test operating mode. 
2	Push the  button.
3	Using the Select Mode button, select the "❄️ COOL" or "🔥 HEAT" operating mode. • Do not use an operating mode other than "❄️ COOL" or "🔥 HEAT". • Temperature adjustment is unavailable during test operation. • Error is detected as usual. 
4	When the test operation has finished, push the  button to stop the operation. (The same display as in procedure 1 appears in the display section.)
5	Push the Test button to clear the test operating mode. ("TEST" disappears from the display section, and the status returns to the normal stopped status.) 

▼ Wireless remote control (Except the 4-way Cassette type and the Ceiling type)

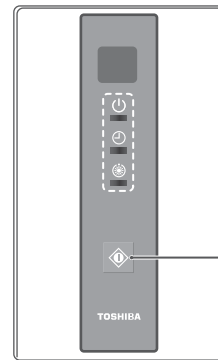
Test run (Forced cooling operation)

Requirement:

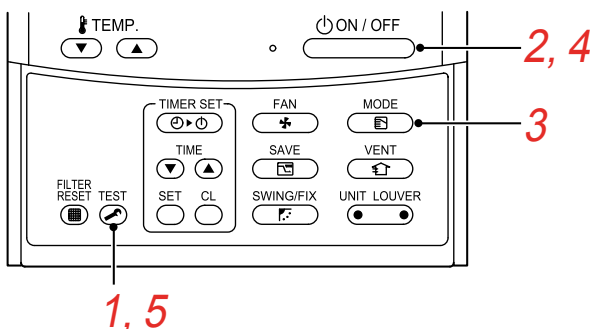
- Finish the forced cooling operation in a short time because it applies excessive strength to the air conditioner.

How to perform forced cooling operation

1. When TEMPORARY button is pushed for 10 seconds or more, "Pi!" sound is heard and the operation changes to a forced cooling operation. After approx. 3 minutes, a cooling operation starts forcibly. Check cool air starts blowing. If the operation does not start, check wiring again.
2. To stop a test operation, push TEMPORARY button once again (Approx. 1 second).
• Check wiring / piping of the indoor and outdoor units after forced cooling operation.



TEMPORARY-Button



Wireless remote controller (4-way Cassette type)

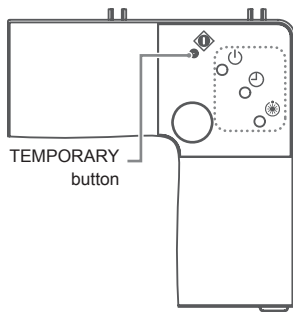
Test run (Forced cooling operation)

Requirement:

- Finish the forced cooling operation in a short time because it applies excessive strength to the air conditioner.

How to perform forced cooling operation

1. When TEMPORARY button is pushed for 10 seconds or more, "Pi!" sound is heard and the operation changes to a forced cooling operation. After approx. 3 minutes, a cooling operation starts forcibly. Check cool air starts blowing. If the operation does not start, check wiring again.
2. To stop a test operation, push TEMPORARY button once again (Approx. 1 second).
 - Check wiring / piping of the indoor and outdoor units in forced cooling operation.



Wireless remote controller (Ceiling type)

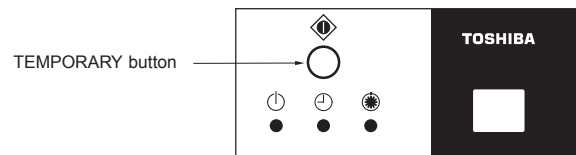
Test run (Forced cooling operation)

Requirement:

- Finish the forced cooling operation in a short time because it applies excessive strength to the air conditioner.

How to perform forced cooling operation

1. When TEMPORARY button is pushed for 10 seconds or more, "Pi!" sound is heard and the operation changes to a forced cooling operation. After approx. 3 minutes, a cooling operation starts forcibly. Check cool air starts blowing. If the operation does not start, check wiring again.
2. To stop a test operation, push TEMPORARY button once again (Approx. 1 second).
 - Check wiring / piping of the indoor and outdoor units in forced cooling operation.




Test operation from the outdoor unit

- Refer to "Function to Start/Stop (ON/OFF) Indoor Unit from Outdoor Unit" in "Service Support Function."

NOTE : The test operation returns to normal operating mode after 60 minutes.

If there are phenomena such as the output of a check code or the remote controller is not accepted when powered on after wiring work or during address setup operation, the following causes are considered.


A Check Code is displayed on the remote controller

Check code displayed on the indoor remote controller	Header unit 7-segment display	Cause	Countermeasures
E04	–	When outdoor power is off	Check that the header outdoor unit power is on
	L08	Address setup error <ul style="list-style-type: none"> Only line addresses of the connected indoor units are undefined. The outdoor line address and the line addresses of all the indoor units do not match. The indoor addresses are duplicated. (Units except those displaying E04 are duplicated.) A header unit is not set up in group control (except groups displaying E04). 	Set up the address again.
	E08 ⇔ -XX Alternate blinking	Duplication of indoor addresses (address number in the subcode of the check code are duplicated).	Set up the address again.
	E07	There is no outdoor terminator or there are two or more terminator resistor. (After address setup, when terminator setup is changed after power on) <div style="display: inline-block; vertical-align: middle;">  <p>SW30</p> </div>	Check SW30 bit 2 of the header unit. No connection between multiple refrigerant lines: SW30 bit 2 is on. Connection between multiple refrigerant lines: SW30 bit 2 of the connected header unit is turned on only for one line.
	E06	Transmission circuit error at the interface side (PC board failure)	Replace the interface PC board.
E06	After address setup, communication from all the indoor units is interrupted under the condition that a normal operation can be performed.	Check and correct disconnection of the indoor/outdoor communication line (the communication line between the header unit and the leading indoor unit). Check for the influence of communication noise.	
E16	E16 ⇔ -XX Alternate blinking	Exceeded the number or capacity of connected indoor units	Adjust the number or capacity of connected indoor units.
E23	E23	Communication between outdoor units has stopped.	Check the number of connected outdoor units. Check that outdoor unit power is on.
E25	E25	Duplication of outdoor addresses (only when an outdoor address was manually set up)	Do not use manual setup for outdoor addresses.
E26	E26 ⇔ -XX Alternate blinking	Number of connected outdoor units has decreased. <ul style="list-style-type: none"> When installing an outdoor backup The power of a follower unit is not turned on. 	Correction of the cause of error occurrence <ul style="list-style-type: none"> If it occurs when installing a backup, clear the error after setup finishes. If the power of a follower unit is not turned on, turn on the power.
L04	L04	Duplication of outdoor line addresses <ul style="list-style-type: none"> Line address setup error (occurred after connection between U1/U2 and U3/U4 connectors) 	Modify the line address setup of the header unit between lines. (Set up SW13 and SW14 on the interface PC board.)
L05(*)	L06	Duplication of indoor units with priority	Set up priority only for one indoor unit.
L06(*)		There are two or more indoor units set up with priority.	Among indoor units indicating "L05," set one unit with priority.
L08	L08	Address setup error <ul style="list-style-type: none"> Only indoor addresses of all the connected indoor units are undefined. 	Set up the addresses again. Modify the setup.

* "L05": Displayed on the indoor unit set up with priority

"L06": Displayed on the indoor units except the one set up with priority

Operation from the indoor remote controller is not accepted, and a Check Code is displayed on the 7 - segment display of the interface PC board of header unit.

Indoor remote controller status	Header unit 7-segment display	Cause	Countermeasures
No response	L08	Line addresses and indoor addresses of all the connected indoor units are not set.	Set up addresses.
		There is no header unit of group control.	Set up a group address.
	E19 ↔ -00 Alternate blinking	Indoor unit power is not turned on.	Turn on the power again. (In the order: indoor → outdoor)
		Indoor/outdoor communication line is not correctly connected to the U1/U2 terminal of the header unit. (Fig 1) (Indoor / outdoor cannot communicate before address setup.)	Correct wiring
		There is no of outdoor terminal resistance, or there are two or more resistances (before address setup). 	Check SW30 bit 2 of the header unit. No connection between multiple refrigerant lines: SW30 bit 2 is on. Connection between multiple refrigerant lines: SW30 bit 2 of the connected header unit is turned on only for one line.
	E19 ↔ -02 Alternate blinking	When connecting an indoor/outdoor communication line between outdoor units under the condition of a connected communication line between outdoor units. (Fig 2)	Correct wiring
E20 ↔ -01 Alternate blinking	Address setup is performed with connecting an indoor/outdoor communication line between outdoor units. (Fig 3)	Correct wiring	
	Address setup is performed under the condition of connecting multiple refrigerant lines. (Fig 3)	Correct wiring	

There is no display of a Check Code on the 7 - segment display on the interface PC board of the header unit, although there is indoor unit that is not accepting operation from the indoor remote controller.

Indoor remote controller status	Header unit 7-segment display	Cause	Countermeasures
No response	None	The communication line is not connected between indoor and outdoor (the unit that does not respond to the indoor remote controller).	Modify the wiring.
		Line address and indoor address are not set (the unit that does not respond to the indoor remote controller).	Set up the address.
		The power of the header unit of the group is not turned on in indoor group control (the unit that does not respond to the indoor remote controller).	Turn on the power.
		Group address is set to the follower unit for individual control (the unit that does not respond to the indoor remote controller).	Set the group address to "0" in the case of individual control.
No display on the indoor remote controller (no line is output.)	None	The power is not turned on (the unit that is not displayed on the indoor remote controller).	Turn on the power.
		The indoor remote controller is not connected with a wire (the unit that is not displayed on the indoor remote controller).	Modify the wiring.
		Miswiring of the indoor remote controller (the unit that is not displayed on the indoor remote controller)	Modify the wiring.
		Indoor remote controller communication circuit trouble (the unit that is not displayed on the indoor remote controller) If 220-240 V is incorrectly applied to the indoor remote controller terminal, the remote controller communication circuit fails.	Remove the Faston connect terminal connected to indoor remote controller terminals A/B, and check the voltage. If voltage is not applied (normally 15 to 18 V), replace the PC board.

In checking the number of connected outdoor units and connected indoor unit after address setup, a lower number of connected units is displayed.

(There are outdoor/indoor units that do not operate in a test operation.)

Status	Cause	Countermeasures
The number of connected outdoor units is too few.	Miswiring of communication lines between outdoor units or an unconnected wire (Fig. 4). (Address setup operation finished without recognizing a miswired follower unit.)	After modification of wiring, set up the addresses again and check the number of connected outdoor units.
The number of connected indoor units is too few.	Miswiring of communication lines between indoor units or an unconnected wire. (Fig 5) (Address setup operation finished without recognizing a miswired indoor unit.)	After modification of wiring, set up the addresses again and check the number of connected indoor units.
The number of outdoor units connected to a group is too few in group operation from an indoor remote controller.	The indoor remote controller is not connected with wire. Miswiring of the indoor remote controller	Using the main indoor remote controller connected to a group, start a test operation, specify the unit that is not operating (the unit not connected to the group), and then check the wiring.
	Indoor remote controller communication circuit trouble If 220-240 V is incorrectly applied to the remote controller terminal, the remote controller communication circuit fails.	Using the main indoor remote controller connected to a group, start a test operation and then specify the unit that is not operating (the unit not connected to the group). Remove the Faston connect terminal connected to remote controller terminals A/B, and check the voltage. If voltage is not applied (normally 15 to 18 V), replace the PC board.

Miswiring example

Figure	Remote controller status	Header unit 7-segment display	Miswiring example
Fig. 1	No response	E19-00	
Fig. 2	No response	E19-02	
Fig. 3	No response	E20-01	

Figure	Status	Miswiring example
Fig. 4	The number of connected outdoor units is too few.	
Fig. 5	The number of connected indoor units is too few.	

When using a remote controller with the model name RBC-AMT32E the following monitor functions can be used.

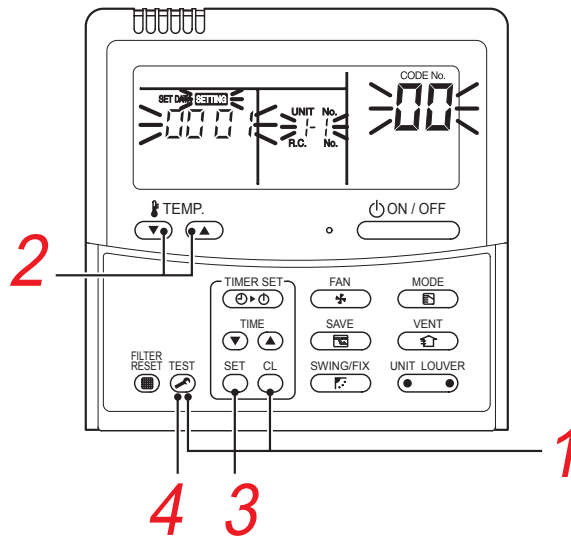
Calling of display screen

<Content>

The sensor temperature or operation status of the remote controller, indoor unit, or the outdoor unit can be known by calling up the service monitor mode from the remote controller.

[Procedure]

- 1 Push **TEST** + **CL** buttons simultaneously for 4 seconds or more to call up the service monitor mode. The service monitor goes on, and temperature of the CODE No. **00** is firstly displayed.
- 2 Push the temperature setup **TEMP** **DOWN** **UP** buttons to select the CODE No. to be monitored. For displayed codes, refer to the table next page.
- 3 Push **SET** button to determine the item to be monitored. Then monitor the sensor temperature or operation status of indoor unit and the outdoor unit in the corresponding refrigerant line.
- 4 Pushing **TEST** button returns the display to the normal display.



	CODE No.	Data name	Display format	Unit	Remote controller display example	
Indoor unit data *2	00	Room temperature (Use to control)	×1	°C	[0024]=24°C	
	01	Room temperature (Remote controller)	×1	°C		
	02	Indoor suction air temperature (TA)	×1	°C		
	03	Indoor coil temperature (TCJ)	×1	°C		
	04	Indoor coil temperature (TC2)	×1	°C		
	05	Indoor coil temperature (TC1)	×1	°C		
	06	Indoor discharge air temperature (TF) *1	×1	°C		
	08	Indoor PMV opening	×1/10	pls		[0150]=1500pls
	F3	Filter sign time	×1	h		[2500] = 2500h
	F9	Suction temperature of air to air heat exchanger (TSA) *1	×1	°C	[0024] = 24°C	
System data	FA	Outside air temperature (TOA) *1	×1	°C		
	0A	No. of connected indoor units	×1	unit	[0048]=48 units	
	0B	Total horsepower of connected indoor units	×10	HP	[0415]=41.5HP	
	0C	No. of connected outdoor units	×1	unit	[0003]=3 units	
	0D	Total horsepower of outdoor units	×10	HP	[0420]=42HP	

	CODE No.			Data name	Display format	Unit	Remote controller display example
	U1	U2	U3				
Outdoor unit individual data 1 *3	10	20	30	High-pressure sensor detection pressure (Pd)	×100	MPa	[0123] = 1.23MPa
	11	21	31	Low-pressure sensor detection pressure (Ps)	×100	MPa	
	12	22	32	Compressor 1 discharge temperature (TD1)	×1	°C	[0024] = 24°C
	13	23	33	Compressor 2 discharge temperature (TD2)	×1	°C	
	15	25	35	Outdoor coil temperature (TE1)	×1	°C	
	16	26	36	Outdoor coil temperature (TE2)	×1	°C	
	17	27	37	Outdoor coil temperature (TG1)	×1	°C	
	18	28	38	Outdoor coil temperature (TG2)	×1	°C	
	19	29	39	Outside ambient temperature (TO)	×1	°C	
	1A	2A	3A	Suction temperature (TS1)	×1	°C	
	1C	2C	3C	Suction temperature (TS3)	×1	°C	
	1D	2D	3D	Temperature at liquid side (TL1)	×1	°C	
	1E	2E	3E	Temperature at liquid side (TL2)	×1	°C	
	1F	2F	3F	Temperature at liquid side (TL3)	×1	°C	

	CODE No.			Data name	Display format	Unit	Remote controller display example
	U1	U2	U3				
Outdoor unit individual data 2 *4	50	60	70	PMV1 opening	×1	pls	[0500] = 500pls
	51	61	71	PMV3 opening	×1	pls	
	52	62	72	PMV4 opening	×1	pls	
	53	63	73	1 fan model : Compressor 1 current (I1) 2 fan model : Compressor 1 and Outdoor fan 1 current (I1)	×10	A	[0135] = 13.5A
	54	64	74	1 fan model : Compressor 2 and Outdoor fan 1 current (I2) 2 fan model : Compressor 2 and Outdoor fan 2 current (I2)	×10	A	
	56	66	76	Compressor 1 revolutions	×10	rps	[0642] = 64.2rps
	57	67	77	Compressor 2 revolutions	×10	rps	
	59	69	79	Outdoor fan mode	×1	mode	[0058] = 58 mode
	5A	6A	7A	Compressor IPDU 1 heat sink temperature	×1	°C	[0024] = 24°C
	5B	6B	7B	Compressor IPDU 2 heat sink temperature	×1	°C	
	5D	6D	7D	Outdoor fan IPDU 1 heat sink temperature	×1	°C	
	5E	6E	7E	Outdoor fan IPDU 2 heat sink temperature	×1	°C	
	5F	6F	7F	Outdoor unit horsepower	×1	HP	[0016] = 16HP

	CODE No.		Data name	Display format	Unit	Remote controller display example
	U1	U2				
Outdoor unit individual data 3 *5	90		Heating/cooling recovery controlled	0: Normal 1: Recovery controlled		[0010]=Heating recovery controlled [0001]=Cooling recovery controlled
	91		Pressure release			[0010]=Pressure release controlled
	92		Discharge temperature release			[0001]=Discharge temperature release controlled
	93		Follower unit release (U2/U3 outdoor units)	0: Normal 1: Release controlled		[0100]=U2 outdoor unit release controlled [0010]=U3 outdoor unit release controlled [0001]=U4 outdoor unit release controlled

*1 Only a part of indoor unit types is installed with the discharge air temperature sensor. This temperature is not displayed for other types.

*2 When the units are connected to a group, data of the header indoor unit only can be displayed.

*3 The first digit of an CODE No. indicates the outdoor unit number.

*4 The upper digit of an CODE No. -4 indicates the outdoor unit number.

1*, 5* ... U1 outdoor unit (Header unit)

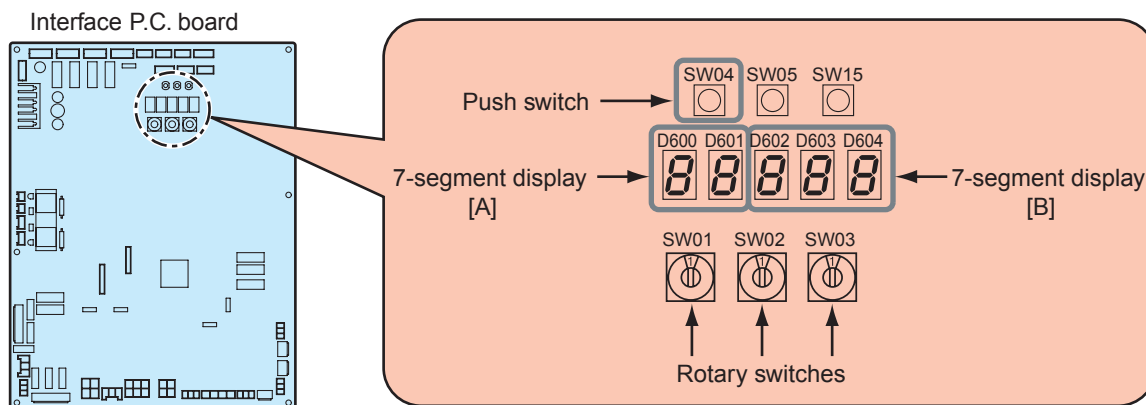
2*, 6* ... U2 outdoor unit (Follower unit 1)

3*, 7* ... U3 outdoor unit (Follower unit 2)

5 Only the CODE No. 9 of U1 outdoor unit (Header unit) is displayed.

7- segment display on outdoor unit (interface P.C. board)

The interface control P.C. board features a 7-segment LED display designed to check operational status. Display items can be changed by changing the combination of the number settings of rotary switches provided on the P.C. board (SW01, SW02 and SW03).



◆ Checking Procedure to Be Followed in Event of Abnormal Shutdown

If the system is shut down due to trouble in the outdoor unit, perform checks in the following steps:

- 1 Open the panel of the outdoor unit and inspection window of the electric parts box, and check the 7-segment display.
 The check code is displayed in the right-hand section of the 7-segment display [B].
 [U1] [000] ([000]: Check code)
 * To check the check code, set the rotary switches SW01/SW02/SW03 to [1/1/1].
 If there is a sub-code, the display alternates between the check code [000] (3 seconds) and the subcode [000] (1 second).
- 2 Check the check code and follow the applicable diagnostic procedure.
- 3 If the 7-segment display shows [*U1*] [*E2B*], there is a check code in a follower unit.
 Push the push-switch SW04 on the header unit and hold for several seconds.
 As the fan of the outdoor unit in which the trouble has occurred comes on, open the panel of the unit, and check the check code shown on the 7-segment display.
- 4 Perform checks in accordance with the diagnostic procedure applicable to the check code.

(1) Display of system Information (Displayed on Header Outdoor Unit Only)

SW01	SW02	SW03	Display detail					
1		3	Unused			A	B	
			2	System capacity	A	[...8]~[64]:8 to 64 HP		
			B		[HP]			
			3	No. of outdoor units	A	[...1]~[...3]:1 to 3		
					B	[...P]		
			4	No. of indoor units connected / No. of units with cooling thermostat ON	A	[...0.]~[64.]:0 to 64 (No. of units connected)		
					B	[C...0]~[C64]:0 to 64 (No. of units with cooling thermostat ON)		
			5	No. of indoor units connected / No. of units with heating thermostat ON	A	[...0.]~[64.]:0 to 64 (No. of units connected)		
					B	[H...0]~[H64]:0 to 64 (No. of units with heating thermostat ON)		
			6	Amount of compressor command correction	A	Value displayed in hexadecimal format		
					B			
			7	Release control	A	Normal: [r. ...], During release control: [r.1]		
					B	-		
			8	Oil equalization control		Normal: [oiL-0]		
	During oil equalization control: [oiL-1]							
9	Oil equalization request	A	Displayed through LED segment lighting pattern					
		B	<p>Display section A Display section B</p> <p>If element F shown on sketch at left turned on: Header unit oil equalization request If element C shown on sketch at left turned on: Follower unit oil equalization request</p> <p>U1 U2 U3 U4 Outdoor unit No.</p>					
10	Refrigerant/oil recovery operation	A	Oil recovery in cooling: [C1], Normal: [C ...]					
		B	Refrigerant recovery in heating: [H1], Normal: [H ...]					
11	Automatic addressing	A	[Ad]					
		B	During automatic addressing: [... FF], Normal: [...]					
12	Power peak-cut	A	[dU]					
		B	Normal: [...], During 50-90% capacity operation: [_50-90] While control is based on BUS line input: [E50-E90]					
13	Optional control (P.C. board input)	Displays optional control status			A	B		
		Operation mode selection: During priority heating (normal)			h.*	*.*.*		
		Priority cooling			c.*	*.*.*		
		Heating only			H.*	*.*.*		
		Cooling only			C.*	*.*.*		
		Priority given to No. of indoor units in operation			n.*	*.*.*		
		Priority given to specific indoor unit			U.*	*.*.*		
		External master ON/OFF: Normal			*....	*.*.*		
		Start input			*.1.	*.*.*		
		Stop input			*.0.	*.*.*		
Night operation: Normal			*.**.*				
Start input			*.*	1.*.*				
Snowfall operation: Normal			*.*	*....*.*				
Start input			*.*	*.1.*				
14	Optional control (BUS line input)	Same as above						
15	Unused							
16	-	A	-					
		B	-					

(2) Display of Outdoor Unit Information (Displayed on each Outdoor Unit)

SW01	SW02	SW03	Display detail					
1		1	Check code	A	Outdoor unit No.: [U1] to [U3]			
				B	Check code (only latest one displayed) If there is no check code, [---] is displayed. If there is sub-code, check code [***] and sub-code [-*] are displayed alternately, for 3 seconds and 1 second, respectively.			
			<SW04> push SW function: Fan operation at outdoor unit with check code. 7-segment display section A: [E.1] <SW04 + SW05> push SW function: Fan operation at outdoor unit without check code. 7-segment display section A: [E.0] <SW05> push SW function: Fan operation function check mode is cancelled.					
			2	A	—			
				B	—			
			3	A	Stop [... ..] Normal cooling: [... C], Normal heating: [... H], Normal defrosting: [... J]			
				B	—			
			4	A	8HP: [... 8], 10HP: [... 10], 12HP: [... 12], 14HP: [14], 16HP: [16], 18HP: [18], 20HP: [20], 22HP: [22]			
				B	[...HP]			
			5	Compressor operation command * Operation data of each compressor is displayed in turn in 2 second intervals.				
				Normal: Compressor speed (rps) is displayed in decimal format. 7-segment display (A/B): [C1.] ⇒ [... ***,*] ⇒ [C2.] ⇒ [... ***,*]				
				<SW04> push SW function: Switches to display of operating current (decimal value). 7-segment display (A/B): [i1.***] ⇒ [i2.***] Pressing of <SW05> restores normal display.				
			6	A	[FP]			
				B	Mode 0 to 63: [... 0] to [63]			
			7	A	[C.b.]			
B	Displays compressor backup setting status Normal: [...] Compressor No. 1 backup: [1] Compressor No. 2 backup: [... 1 ...]							
8	A	—						
	B	—						
9	Control valve output data SV2, SV51, SV52		Displays control output status of solenoid valve	A	B			
	4-way valve: ON / 4-way valve 2: OFF			H. 1			
	4-way valve: OFF / 4-way valve 2: ON			H. 0			
	SV2: ON / SV51: OFF / SV52: OFF			2. ...	1 0 0			
	SV2: OFF / SV51: ON / SV52: ON			2. ...	0 1 0			
	SV2: OFF / SV51: OFF / SV52: ON			2. ...	0 0 1			
	SV3A: ON / SV3B: OFF / SV3C: OFF / SV3D: OFF			3. 1	0 0 0			
	SV3A: OFF / SV3B: ON / SV3C: OFF / SV3D: OFF			3. 0	1 0 0			
	SV3A: OFF / SV3B: OFF / SV3C: ON / SV3D: OFF			3. 0	0 1 0			
	SV3A: OFF / SV3B: OFF / SV3C: OFF / SV3D: ON			3. 0	0 0 1			
10	SV41: ON / SV42: OFF			4. ...	1 0 0			
	SV41: OFF / SV42: ON			4. ...	0 1 0			
	SV41: OFF / SV42: OFF			4. ...	0 0 1			
13	PMV1/PMV3 opening	Displays opening data in decimal format	PMV1/PMV3	, **	** . P			
14	PMV4 opening	Displays opening data in decimal format	PMV4	... *	** . P			
15	Oil level judgment status							
	Normal	A	[o L.]					
		B	Initial display: [...], Oil level judgment result: [#.*\$] Displayed letters #, * and \$ represent judgment results for compressor Nos. 1 and 2, respectively ("0" for normal and "1" or "2" for low level).					
	<SW04> push SW function: Displays low level confirmed judgment result of each compressor.							
* Pressing of <SW05> restores normal display.	A	[L d.]						
	B	Compressor No. 1 low level being confirmed: [L] Compressor No. 2 low level being confirmed: [... L ...]						

(3) Display of Outdoor Cycle Data (Display at each Outdoor Unit)

SW01	SW02	SW03	Display detail					
1	1	2	Pd pressure data	Pd pressure (MPaG) is displayed in decimal format. (MPaG: Approx. 10 times magnitude of kg/cm2G)	A	B		
					P d.	*. **		
				Ps pressure data	Ps pressure (MPaG) is displayed in decimal format.	P s.		
				PL pressure conversion data	Converted PL pressure (MPaG) is displayed in decimal format.	P L.	*. **	
				TD1 sensor data	Temperature sensor reading (°C) is displayed in decimal format.	Letter symbol	t d	1
						Data	*	*. **
				TD2 sensor data	• Letter symbol and data are displayed alternately, for 1 second and display for 3 seconds, respectively. • Data is displayed in [*].	Letter symbol	t d	2
						Data	*	*. **
				TS1 sensor data	• Data with negative value is displayed as [- *].	Letter symbol	t S	1
						Data	*	*. **
				TS3 sensor data		Letter symbol	t S	3
						Data	*	*. **
				TE1 sensor data		Letter symbol	t E	1
						Data	*	*. **
				TE2 sensor data		Letter symbol	t E	2
						Data	*	*. **
	TL1 sensor data		Letter symbol	t L	1			
			Data	*	*. **			
	TL2 sensor data		Letter symbol	t L	2			
			Data	*	*. **			
	TL3 sensor data		Letter symbol	t L	3			
			Data	*	*. **			
	TO sensor data		Letter symbol	t o			
			Data	*	*. **			

SW01	SW02	SW03	Display detail					
1	1	5	TK1 sensor data	Temperature sensor reading (°C) is displayed in decimal format.	Letter symbol	F 1	
					Data	*	*. **	
				TK2 sensor data		Letter symbol	F 2
						Data	*	*. **
				TK4 sensor data		Letter symbol	F 4
						Data	*	*. **
				TK5 sensor data		Letter symbol	F 5
						Data	*	*. **
				TG1 sensor data		Letter symbol	t G	1
						Data	*	*. **
				TG2 sensor data		Letter symbol	t G	2
						Data	*	*. **

(4) Display of Outdoor Cycle Data (Display at Header Unit)

* This method is used when displaying follower unit information on the 7-segment display of the header unit.

SW01	SW02	SW03	Display detail				
3	1	1~3	Error data	A	[U.*], *: SW03 setting No. + 1 (Outdoor unit No. U2 to U 3)		
				B	Check code is displayed (latest one only). If there is no check code: [- -].		
	2		Type of compressor installed	A	[U.*], *: SW03 setting No. + 1 (Outdoor unit No. U2 to U 3)		
				B			
	3		Outdoor unit HP capacity	A	[U.*], *: SW03 setting No. + 1 (Outdoor unit No. U2 to U 3)		
				B	8HP: [... 8], 10HP: [... 10], 12HP: [... 12], 14HP: [14], 16HP: [16], 18HP: [18], 20HP: [20], 22HP: [22]		
	4		Compressor operation command	A	[U.*], *: SW03 setting No. + 1 (Outdoor unit No. U2 to U 3)		
				B	Indicates which compressor is ON. * Any unconnected compressors is represented by “-”.		
					When compressor No. 1 is ON	B	1 0
					When compressor No. 2 is ON	B	0 1
	5		Fan operation mode	A	[U.*], *: SW03 setting No. + 1 (Outdoor unit No. U2 to U 3)		
				B	At rest: [F ... 0], In mode 63: [F 6 3]		
	6		Release signal	A	[U.*], *: SW03 setting No. + 1 (Outdoor unit No. U2 to U 3)		
				B	Normal: [r], Upon receiving release signal: [r ... 1]		
	7		Oil level judgment	A	[U.*], *: SW03 setting No. + 1 (Outdoor unit No. U2 to U 3)		
				B	Normal: [... ..], Low level: [... .. L]		
	8		Compressor 1 operating current	A	[U.*], *: SW03 setting No. + 1 (Outdoor unit No. U2 to U 3)		
				B	[**.*], *.* is value of operating current in decimal format.		
9	Compressor 2 operating current	A	[U.*], *: SW03 setting No. + 1 (Outdoor unit No. U2 to U 3)				
		B	[**.*], *.* is value of operating current in decimal format.				

Note: Follower unit is selected by setting SW03.

SW03	7-segment display section A
1	U2
2	U3

(5) Display of Indoor Unit information (Display on Header Unit only)

SW01	SW02	SW03	Display detail		
4	1~16	1~4	Indoor BUS communication signal receiving status	B Upon receiving signal: [... .. 1], Other times: [... ..]	
5			Indoor check code	B No check code: [---]	
6			Indoor HP capacity	B 0. 2, 0. 5, 0. 8, ... 1, 1. 2, 1. 7, ... 2, 2. 5, ...3, 3. 2, ...4, ...5, ...6, ...8, 1 0, 1 6, 2 0	
7			Indoor request command (S code, operation mode)	B [# ... *] # represents mode: COOL: [C. ...*], HEAT: [H. ...*] FAN: [F. ...*], OFF: [S. ...*] * represents S code: [# ... 0] to [# ... F]	
8			Indoor PMV opening data	B Displayed in decimal format	
9			Indoor TA / TRA opening data	B Displayed in decimal format	
10			11~14	Indoor TSA opening data	B Displayed in decimal format
10			1~4	Indoor TF / TFA opening data	B Displayed in decimal format
11			11~14	Indoor TOA opening data	B Displayed in decimal format
11			1~4	Indoor TCJ opening data	B Displayed in decimal format
12	Indoor TC1 opening data	B Displayed in decimal format			
13	Indoor TC2 opening data	B Displayed in decimal format			

Note: Indoor address No. is selected by setting SW02 and SW03 and displayed on 7-segment display, section A.

SW02	SW03	Indoor address	7-segment display section A
1~16	1	SW02 setting number	[01]~[16]
	11		
	2	SW02 setting number +16	[17]~[32]
	12		
	3	SW02 setting number +32	[33]~[48]
	13		
	4	SW02 setting number +48	[49]~[64]
14			

(6) Display of Outdoor EEPROM Writing Check Code (Display at each Outdoor Unit)

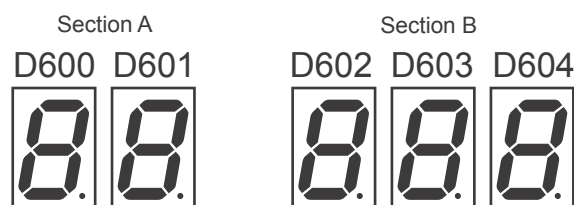
* The latest check code written in the EEPROM of each outdoor unit is displayed.

(This function is used to check the check code after the resetting of the power supply.)

To display the check code, push SW04 and hold for at least 5 seconds after setting SW01 to 03 as shown in the table below.

SW01	SW02	SW03	Indoor address	7-segment display section A	
1	1	16	Latest check code of header unit (U1)	E. 1.	***
	2		Latest check code of follower unit No. 1 (U2)	E. 2.	***
	3		Latest check code of follower unit No. 2 (U3)	E. 3.	***

• 7-Segment Display



Set SW01/SW02/SW03 to [1/1/16] and push SW04 and hold for at least 5 seconds. The latest check code of the header unit (U1) will be displayed.

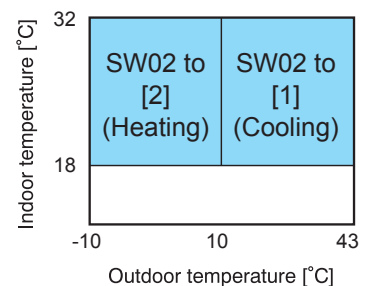
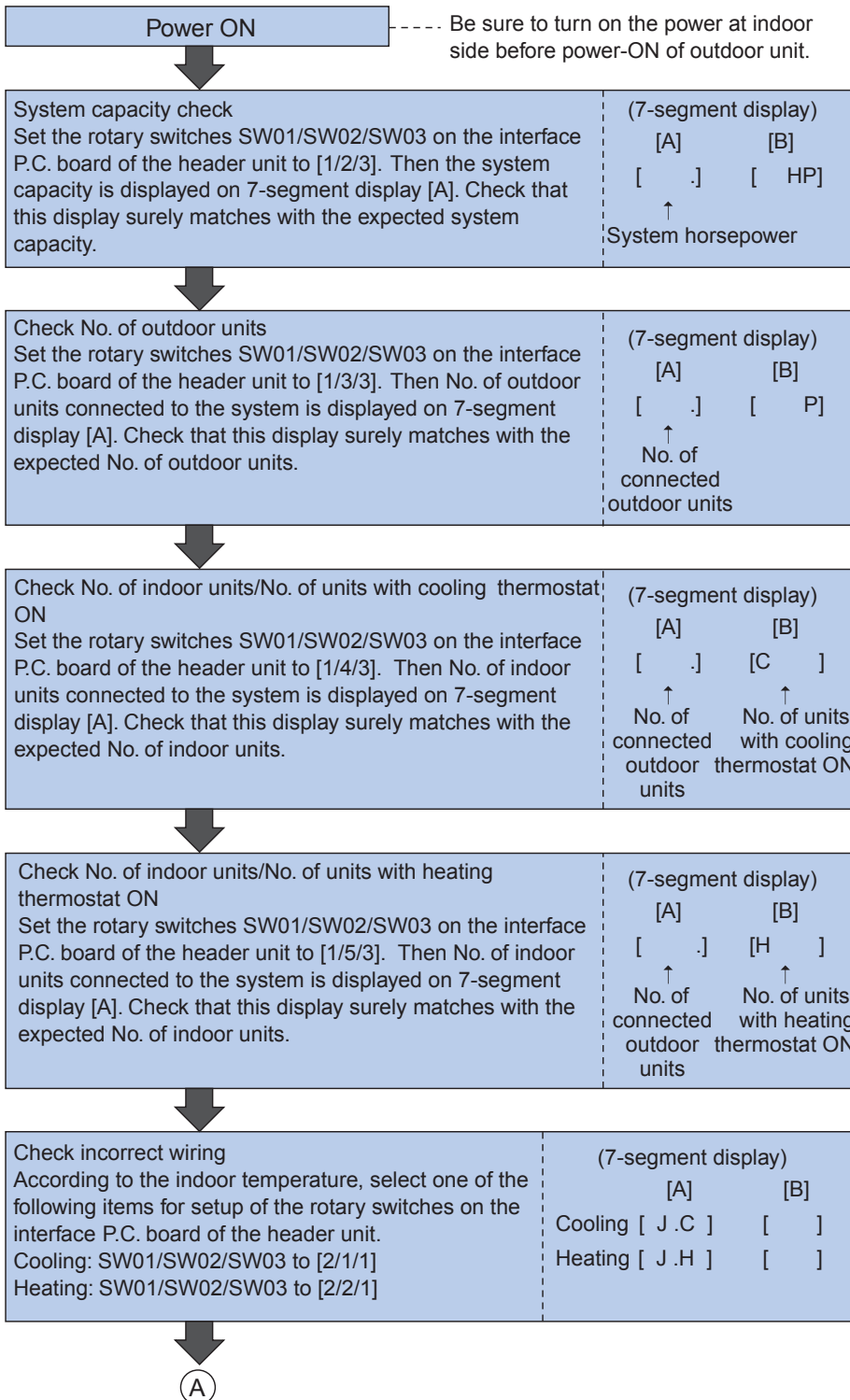
If the setting of SW02 is changed, the latest check code of a follow unit (U2-U3) will be displayed.

Check Function for Connecting of Refrigerant and Control Lines

This function is provided to check misconnection of the refrigerant pipes and the control transmission line (Wiring over lines) between indoor unit and outdoor unit by using the switch on the interface P.C. board of the header unit. However, be sure to check the following items prior to executing this check function.

- 1 This check function does not work when a group operation by remote controller is performed and it is used over outdoor units.
- 2 When using this check system, be sure to check for each 1 line in the unit of outdoor unit. If checking the multiple lines at the same time, misjudgment may be caused.

(Check procedure)



Note 1: Criteria for the difference between suction and discharge temperatures

(1) Cooling operation

After operating for a minimum of 30 minutes in "COOL" mode, if the ΔT dry bulb temperature difference between suction and discharge air of the indoor unit is 8°C deg or more, it is normal.

(2) Heating operation

After operating for a minimum of 30 minutes in "HEAT" mode, if the ΔT dry bulb temperature difference between suction and discharge air of the indoor unit is 15°C deg or more, it is normal.

* If demand from the indoor unit on the outdoor unit is low because the difference between the temperature set by the remote controller and the temperature of the room is small, then the ΔT temperature difference is small.

* Consider that T temperature difference may diminish in cases of a system in which the connected indoor unit capacity exceeds the outdoor unit capacity, the pipe length is long, or a large difference exists among outdoor units.

Note 2: Criteria for operating power current

The table below shows the maximum current for each outdoor unit. Under standard conditions, operating current is about 80% of the value shown in the table below.

Outdoor unit	MMY-MAP	0806*	1006*	1206*	14B6*	1406*	1606*	18B6*	1806*	2006*	2206*
Current value	(A)	20.5	21.5	26.1	29.4	31.0	35.8	39.9	40.6	44.9	49.3

Note 3: Criteria for cycle status

(1) These data are based on operating a 4-way Air Discharge Cassette type air conditioner of 100% connection with standard piping length.

Data may vary depending on temperature conditions, installed pipe length, and room shape combinations, or indoor unit connection capacity.

For pressure criteria in different temperature conditions, refer to (2).

Outdoor unit MMY-MAP	Operating mode	Pressure (MPa)		Pipe surface temperature (°C)					Number of compressor rotations (rps)		Indoor fan	Air temperature condition (DB/WB) (°C)	
		Pd	Ps	Discharge (TD)	Suction (TS)	Indoor heat exchanger (TC)	Outdoor heat exchanger (TE)	Liquid temperature (TL3)	Compressor 1	Compressor 2		Indoor	Outdoor
0806*	Cooling	2.9	0.9	80	16	10	40	30	50	50	High	27/19	35/-
	Heating	2.6	0.7	75	5	35	3	30	50	50	High	20/-	7/6
1006*	Cooling	3.1	0.9	85	16	11	40	30	60	60	High	27/19	35/-
	Heating	2.6	0.7	80	4	35	2	30	65	65	High	20/-	7/6
1206*	Cooling	3.2	0.9	90	16	11	40	30	70	70	High	27/19	35/-
	Heating	2.6	0.7	85	3	35	2	25	75	75	High	20/-	7/6
10A6*	Cooling	3.1	0.9	85	16	10	40	30	50	50	High	27/19	35/-
	Heating	2.6	0.7	80	5	35	3	30	55	55	High	20/-	7/6
1406*	Cooling	3.2	0.9	90	16	10	40	35	60	60	High	27/19	35/-
	Heating	2.6	0.7	80	4	35	3	30	65	65	High	20/-	7/6
1606*	Cooling	3.2	0.9	90	16	10	40	35	70	70	High	27/19	35/-
	Heating	2.8	0.7	85	3	30	2	25	70	70	High	20/-	7/6
14A6*	Cooling	3.1	0.9	75	16	11	40	35	60	60	High	27/19	35/-
	Heating	2.6	0.7	65	4	30	3	30	65	65	High	20/-	7/6
16A6*	Cooling	3.1	0.9	80	16	11	40	35	70	70	High	27/19	35/-
	Heating	2.6	0.7	70	4	30	3	25	75	75	High	20/-	7/6
1806*	Cooling	3.1	0.9	85	15	11	40	35	80	80	High	27/19	35/-
	Heating	2.8	0.6	75	3	30	2	25	85	85	High	20/-	7/6
2006*	Cooling	3.2	0.9	95	14	11	40	35	100	100	High	27/19	35/-
	Heating	2.7	0.6	75	3	30	2	20	85	85	High	20/-	7/6
2206*	Cooling	3.1	0.9	80	15	11	40	35	70	70	High	27/19	35/-
	Heating	2.8	0.7	70	4	30	3	25	75	75	High	20/-	7/6

2206* : Heat Recovery type Not use

* This compressor is driven with a 4-pole motor. The value of the compressor frequency (rps) measured with a clamp meter at the compressor lead line is two times the rotation count (rps) of the compressor.

* Each compressor may have a different frequency as a measure against resonance.

* The temperature of the indoor heat exchanger (TC) indicates TCJ sensor temperature when cooling, and TC2 sensor temperature when heating, respectively

(2) Criteria for operating pressure

Operating mode		Cooling	Heating
Indoor temperature (°C)		18~32	15~25
Outdoor temperature (°C)		25~35	5~10
Pressure	High pressure (MPa)	2.0~3.7	2.5~3.3
	Low pressure (MPa)	0.5~0.9	0.5~0.7

* Criteria after 15 minutes or more has passed since operating started

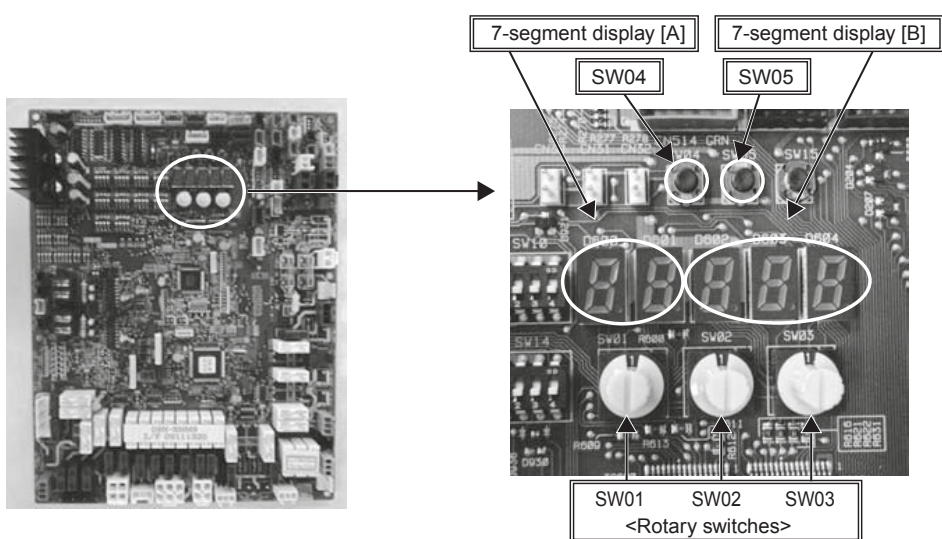
(A)

<p>Operation start Press the push-switch SW04 on the interface P.C. board of the header unit for 2 seconds or more. The operation starts. Check that 7-segment display [B] shows [CC] for cooling and [HH] for heating.</p>	<p>(7-segment display)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">[A]</td> <td style="text-align: center;">[B]</td> <td></td> </tr> <tr> <td style="text-align: center;">Cooling [C]</td> <td style="text-align: center;">[CC]</td> <td style="border-left: 1px dashed black; padding-left: 10px;">Operation</td> </tr> <tr> <td style="text-align: center;">Heating [H]</td> <td style="text-align: center;">[HH]</td> <td></td> </tr> </table>	[A]	[B]		Cooling [C]	[CC]	Operation	Heating [H]	[HH]	
[A]	[B]									
Cooling [C]	[CC]	Operation								
Heating [H]	[HH]									

<p>Confirmation of check results (1) Check that No. of misconnected indoor units is displayed on 7-segment display [B] after 15 minutes. (If there is no misconnection, [00P] is displayed.)</p>	<p>(7-segment display)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">[A]</td> <td style="text-align: center;">[B]</td> <td></td> </tr> <tr> <td style="text-align: center;">[]</td> <td style="text-align: center;">[## P]</td> <td style="border-left: 1px dashed black; padding-left: 10px;">This check operation requires 15 minutes even if there is no misconnection or there is any misconnection.</td> </tr> <tr> <td style="text-align: center;">↑</td> <td style="text-align: center;">↑</td> <td></td> </tr> <tr> <td style="text-align: center;">C or H</td> <td style="text-align: center;">No. of misconnected indoor units</td> <td></td> </tr> </table>	[A]	[B]		[]	[## P]	This check operation requires 15 minutes even if there is no misconnection or there is any misconnection.	↑	↑		C or H	No. of misconnected indoor units	
[A]	[B]												
[]	[## P]	This check operation requires 15 minutes even if there is no misconnection or there is any misconnection.											
↑	↑												
C or H	No. of misconnected indoor units												

<p>Confirmation of check results (2) Push the push-switch SW05 on the interface P.C. board of the header unit for 2 seconds or more. The indoor address in which error is being detected is displayed on 7-segment display [B]. If there are multiple indoor address in which check code is being detected, they are successively exchanged and displayed. (When SW05 is turned on again, the display returns to display of No. of units.)</p>	<p>(7-segment display)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">[A]</td> <td style="text-align: center;">[B]</td> <td></td> </tr> <tr> <td style="text-align: center;">[]</td> <td style="text-align: center;">[##]</td> <td style="border-left: 1px dashed black; padding-left: 10px;">Address display of misconnected indoor unit</td> </tr> <tr> <td style="text-align: center;">↑</td> <td style="text-align: center;">↑</td> <td></td> </tr> <tr> <td style="text-align: center;">C or H</td> <td style="text-align: center;">Address display of misconnected indoor unit</td> <td></td> </tr> </table>	[A]	[B]		[]	[##]	Address display of misconnected indoor unit	↑	↑		C or H	Address display of misconnected indoor unit	
[A]	[B]												
[]	[##]	Address display of misconnected indoor unit											
↑	↑												
C or H	Address display of misconnected indoor unit												

<p>After check, return the rotary switches SW01/SW02/SW03 on the interface P.C. board of the header unit to [1/1/1].</p>	<p>(7-segment display)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">[A]</td> <td style="text-align: center;">[B]</td> <td></td> </tr> <tr> <td style="text-align: center;">[U1]</td> <td style="text-align: center;">[]</td> <td></td> </tr> </table>	[A]	[B]		[U1]	[]	
[A]	[B]						
[U1]	[]						



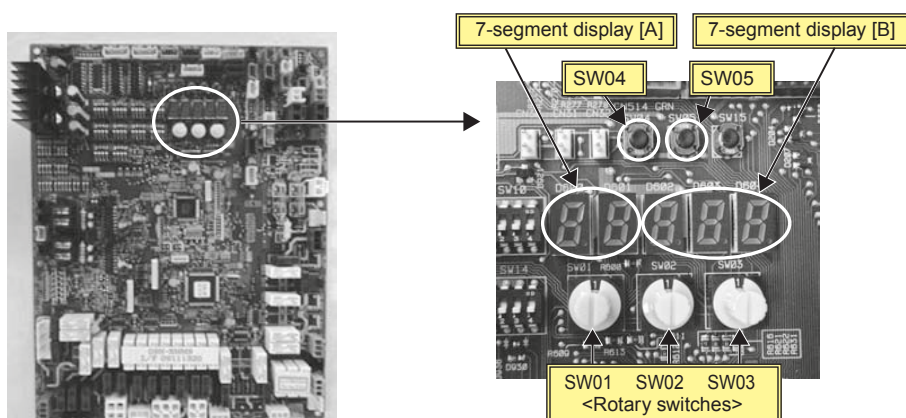
Function to Start / Stop (On / Off) Indoor Unit from Outdoor Unit

The following functions of the indoor unit can start or stop by the switches on the interface P.C. board of the header unit.

No.	Function	Outline	Setup/Release	7-segment display	
1	Straight cooling test operation	Changes the mode of all the connected indoor units collectively to cooling test operation. Note) Control operation same as usual test operation from remote control is performed.	[Setup] Set SW01/SW02/SW03 to [2/5/1], and push SW04 for 2 seconds or more. [Release] Return SW01/SW02/SW03 to [1/1/1].	Section A [C.]	Section B [- C]
2	Straight heating test operation	Changes the mode of all the connected indoor units collectively to heating test operation. Note) Control operation same as usual test operation from remote control is performed.	[Setup] Set SW01/SW02/SW03 to [2/6/1], and push SW04 for 2 seconds or more. [Release] Return SW01/SW02/SW03 to [1/1/1].	Section A [H.]	Section B [- H]
3	Fan test operation	Changes operation mode of all the connected indoor units collectively to test operation mode. Note) Control operation same as usual test operation from remote control is performed.	[Setup] Set SW01/SW02/SW03 to [2/9/1], and push SW04 for 2 seconds or more. [Release] Return SW01/SW02/SW03 to [1/1/1].	Section A [F.]	Section B [- F]
4	Batch start	Starts all the connected indoor units collectively. Note) The contents follow to the setup of remote controller.	[Setup] Set SW01/SW02/SW03 to [2/7/1], and push SW04 for 2 seconds or more. [Release] Return SW01/SW02/SW03 to [1].	Section A [C.H]	Section B [11] [00] is displayed on Section B for 5 seconds.
	Batch stop	Stops all the connected indoor units collectively.	[Setup] Set SW01/SW02/SW03 to [2/7/1], and push SW05 for 2 seconds or more. [Release] Return SW01/SW02/SW03 to [1].	Section A [C.H]	Section B [00] [00] is displayed on Section B for 5 seconds.
5	Individual start	Starts the specified indoor unit. Notes) • The contents follow to the setup of remote controller. • The other indoor units keep the status as they are.	[Setup] Set SW01 to [16], set SW02 and SW03 to address No. (1 to 40) to be started, and push SW04 for 2 seconds or more. [Release] Return SW01/SW02/SW03 to [1/1/1].	Section A []	Section B [] Section A: Displays the corresponding indoor address. Section B: Displays [11] for 5 seconds from operation-ON.
	Individual stop	Stops the specified indoor unit. Note) The other indoor units keep the status as they are.	[Setup] Set SW01 to [16], set SW02 and SW03 to address No. (1 to 40) to be stopped, and push SW05 for 2 seconds or more. [Release] Return SW01/SW02/SW03 to [1/1/1].	Section A []	Section B [] Section A: Displays the corresponding indoor address. Section B: Displays [00] for 5 seconds from operation-OFF.
	Individual test operation	Operates the specified indoor unit. Note) The other indoor units keep the status as they are.	[Setup] Set SW01 to [16], set SW02 and SW03 to address No. to be operated, and push SW04 for 10 seconds or more. [Release] Return SW01/SW02/SW03 to [1/1/1].	Section A []	Section B [] Section A: Displays the corresponding indoor address. Section B: Displays [FF] for 5 seconds from test operation-ON.

NOTE 1) This start/stop function only sends the signals from the outdoor unit to the indoor unit, such as start, stop, operation mode, etc. It does not resend the signals even if the indoor unit does not follow the sent signals.

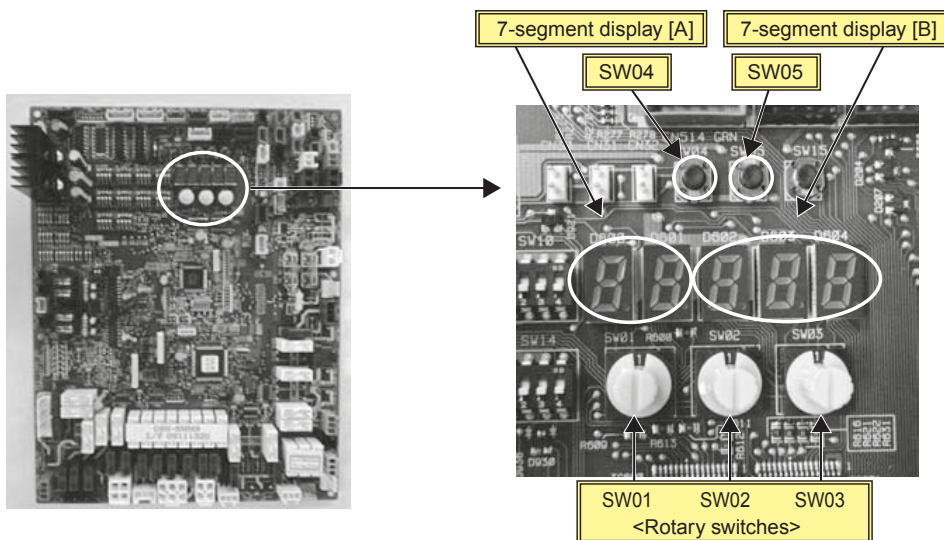
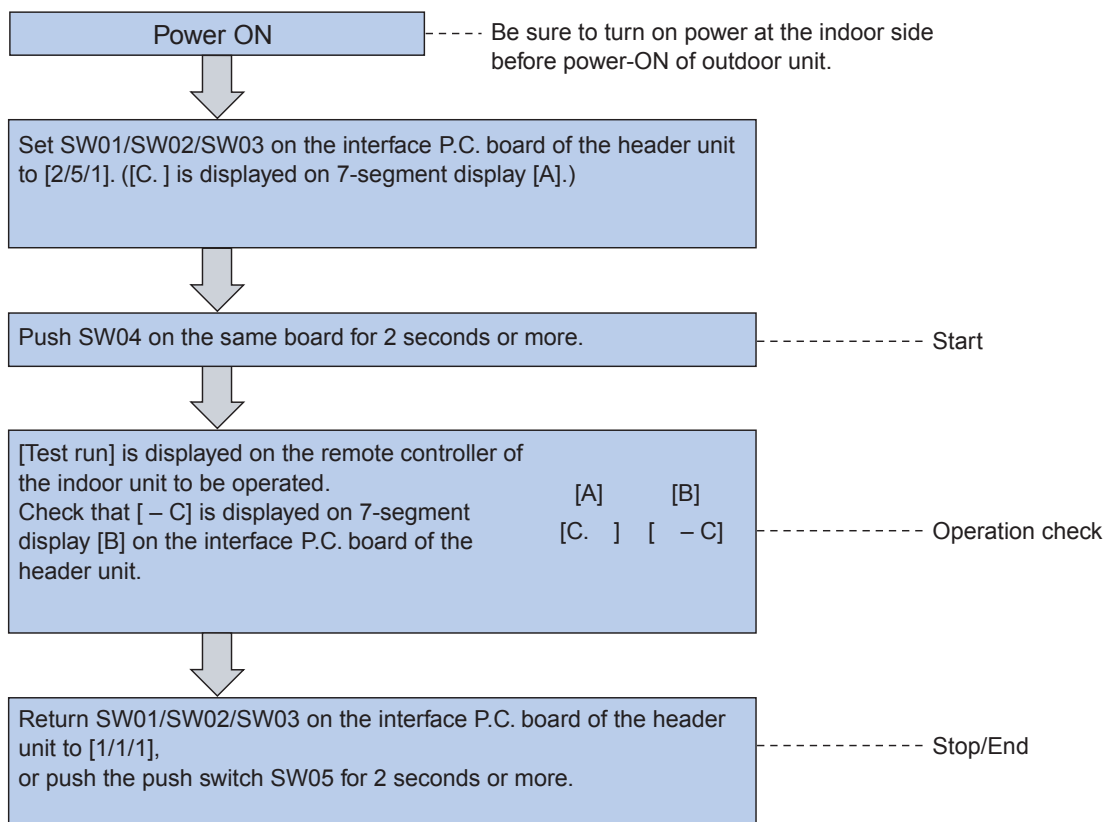
NOTE 2) The above controls are not used during abnormal stop.



(1) All cooling test operation function

This function is provided to change collectively the mode of all the indoor units connected to the same system for the cooling test operation mode, by using switches on the interface P.C. board of the header unit.

<Operation procedure>

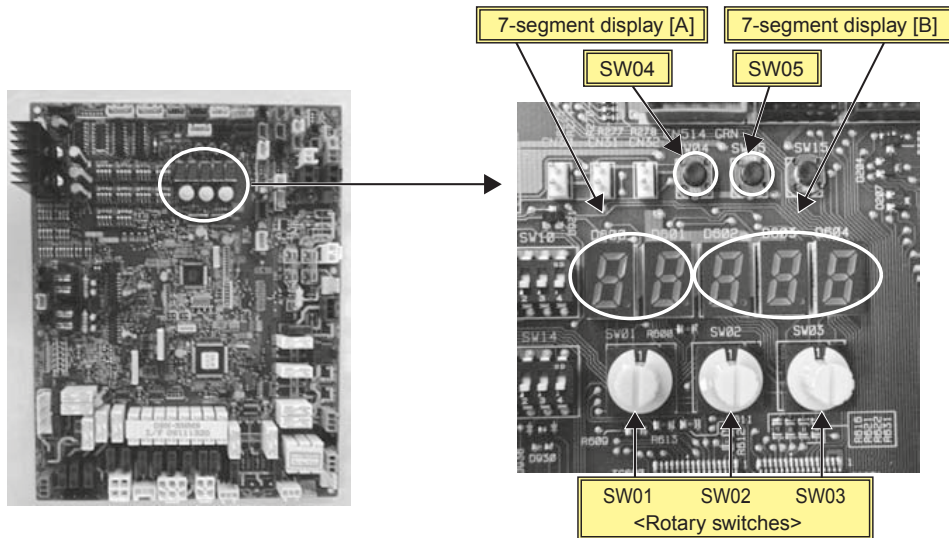
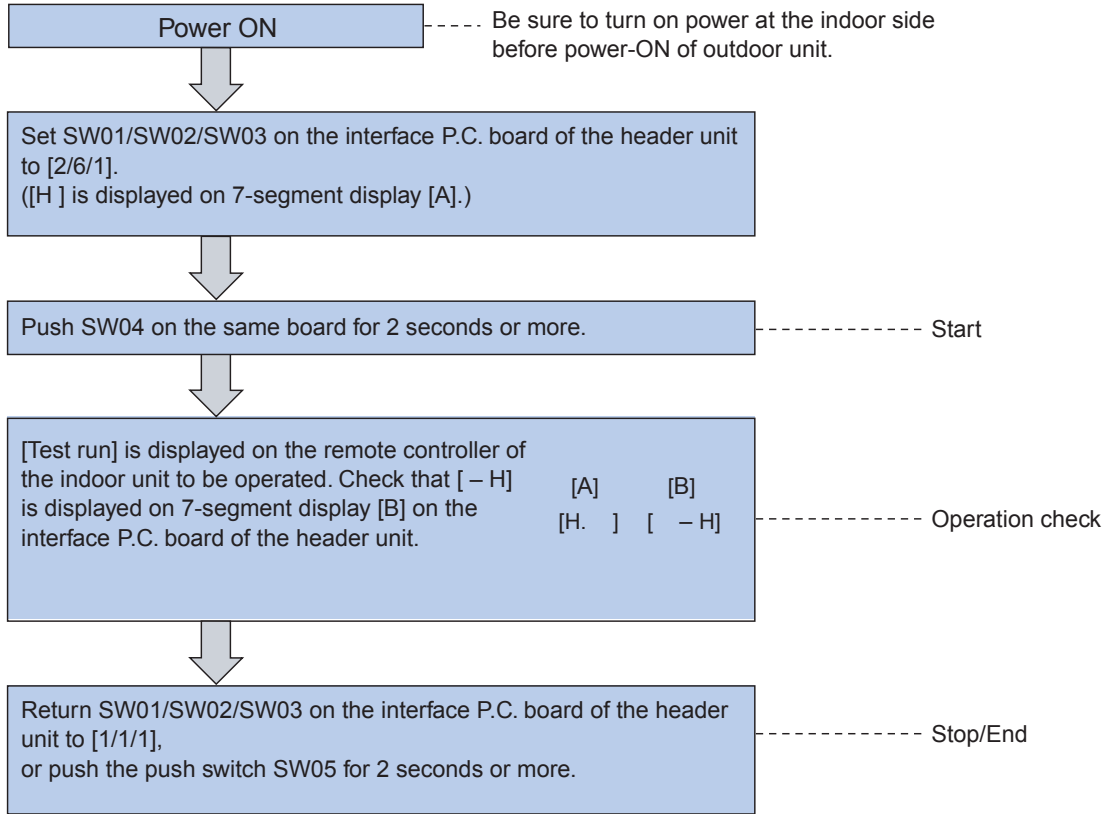


NOTE) The test operation returns to the normal operation after 60 minutes.

(2) All heating test operation function

This function is provided to change collectively the mode of all the indoor units connected to the same system for the heating test operation mode, by using switches on the interface P.C. board of the header unit.

<Operation procedure>

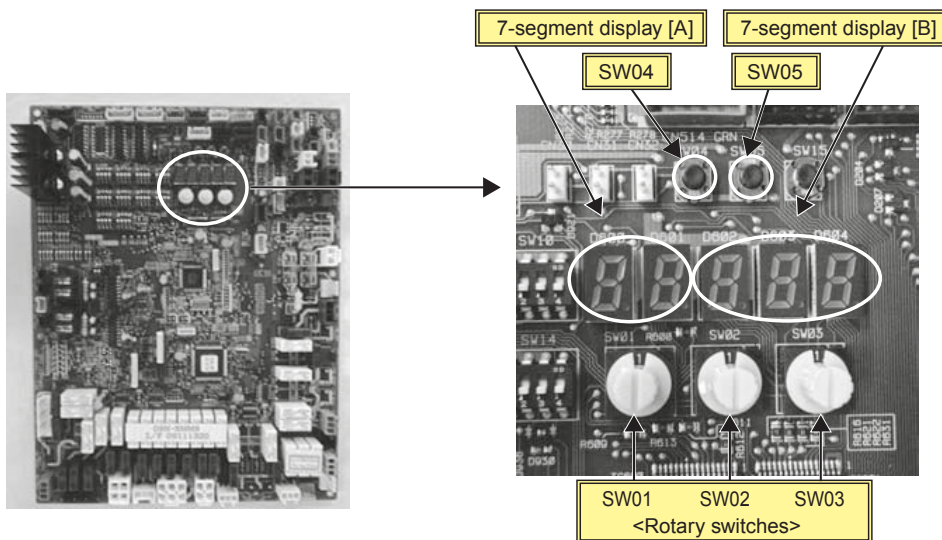
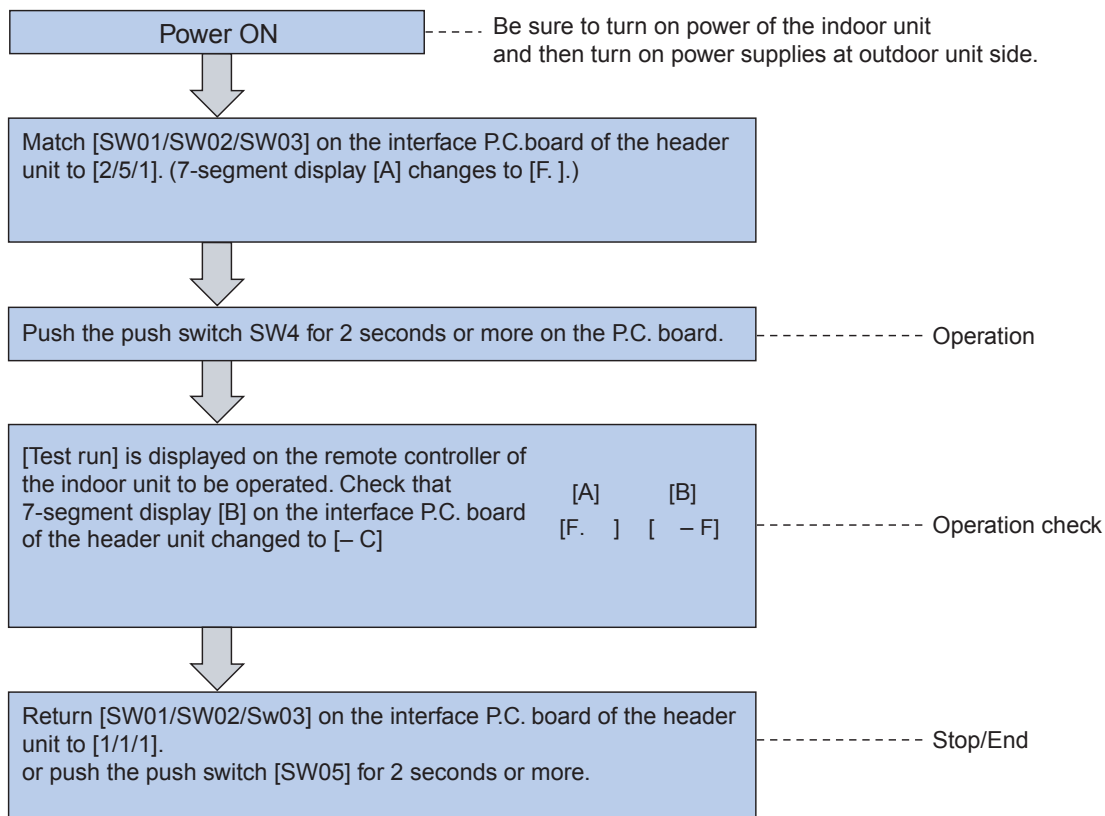


NOTE) The test operation returns to the normal operation after 60 minutes.

(3) Single fan test operation function

This function is provided to change collectively the mode of all the indoor units connected to the same system for the fan test operation mode by using switches on the interface P.C. board of the header unit.

<Operation procedure>

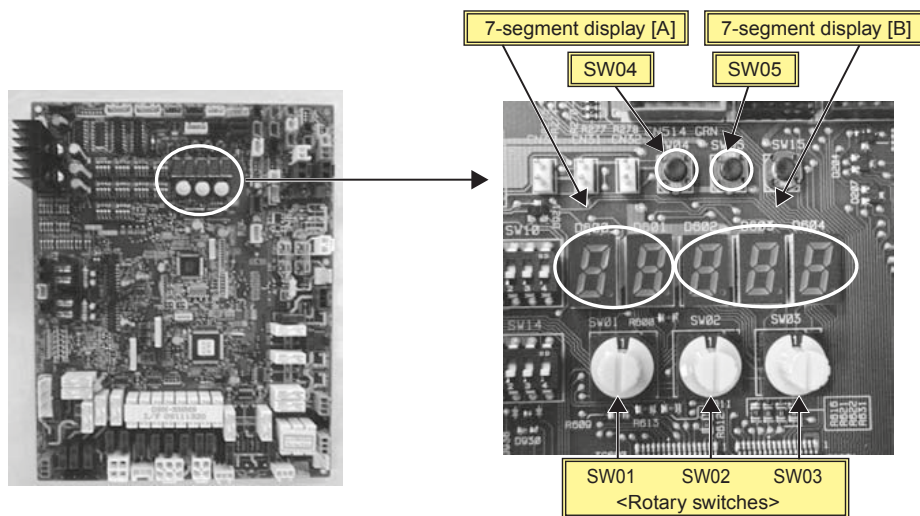
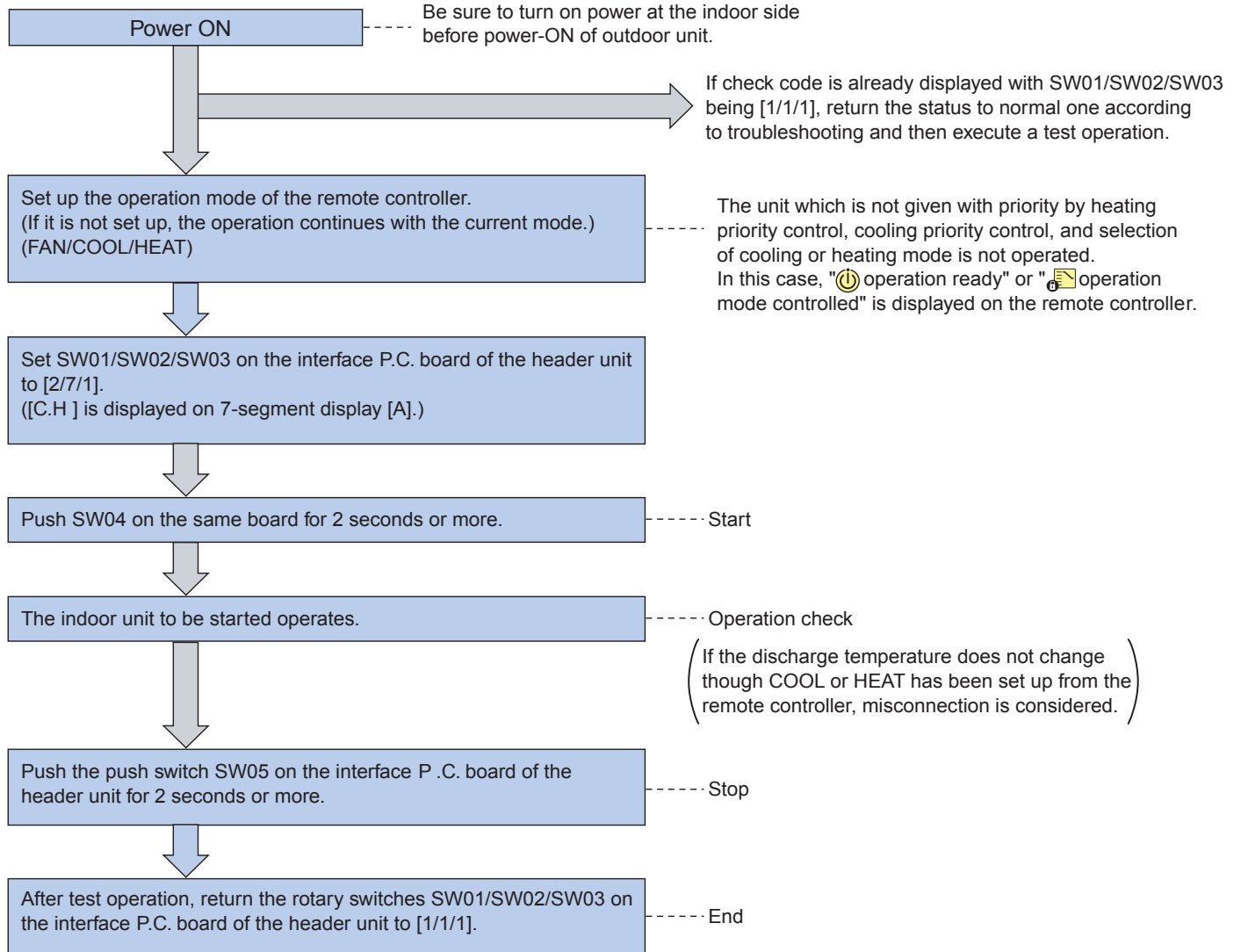


NOTE) The test operation ends after 60 minutes and the operation returns to normal status.

(4) Batch start/stop (ON/OFF) function

This function is provided to start/stop collectively all the indoor units connected to the same system by using switches on the interface P.C. board of the header unit.

<Operation procedure>







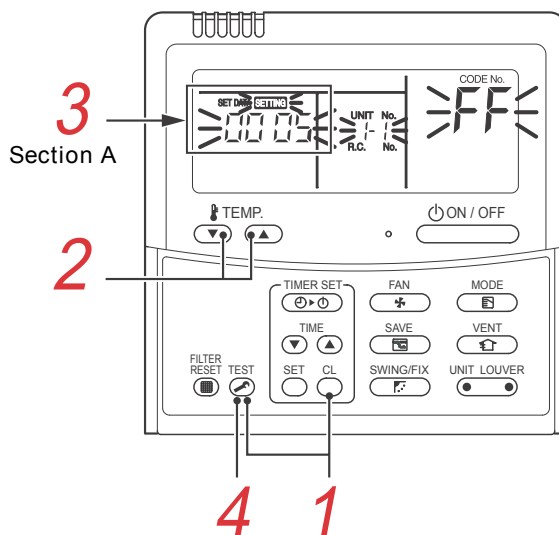
(1) Clearing from the main remote controller

▼ Check code clearing in outdoor unit


Check code of the outdoor unit currently detected is cleared by the unit of one refrigerant circuit system to which the indoor units operated by the remote controller is connected. (Check code of the indoor unit is not cleared.)
For clearing check codes, the service monitor function of the remote controller is used.

<Method>

- 1 Change the mode to service monitor mode by pushing  +  buttons simultaneously for 4 seconds or more.
- 2 Using  buttons, set CODE No. to "FF".
- 3 The display in Section A in the following figure is counted with interval of 5 seconds as "0005" → "0004" → "0003" → "0002" → "0001" → "0000".
When the count arrives "0000", the check code is cleared.
* However, counting from "0005" is repeated on the display.
- 4 When  button is pushed, the status returns to the normal status.



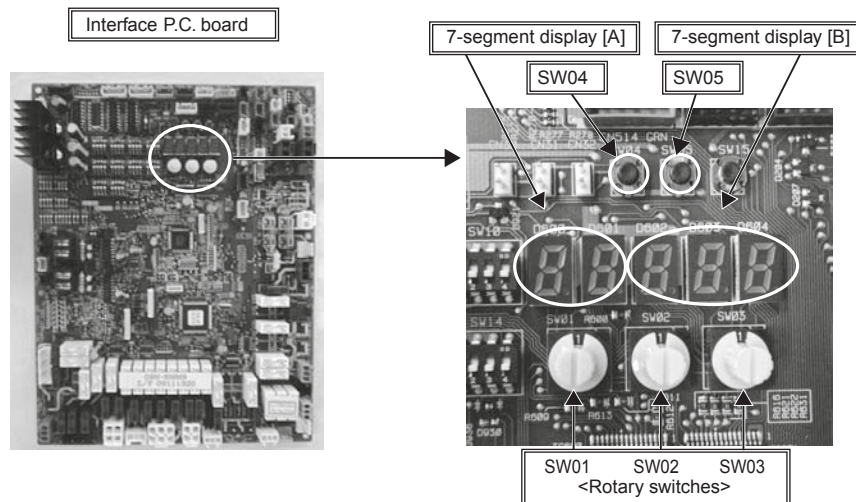
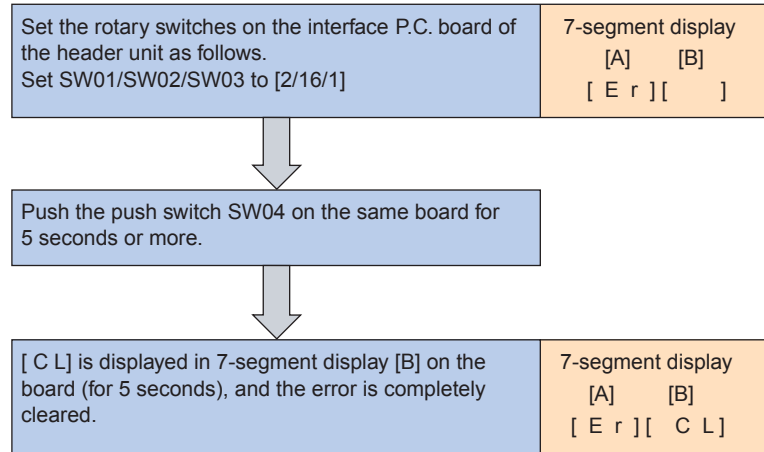
▼ Check code clearing in indoor

Check code in the indoor unit is cleared by  button on the remote controller.
(Only check code of the indoor unit connected with operating remote controller is cleared.)

(2) Clearing check code by using switches on the interface board of the header unit

Using the switches on the interface P.C. board of the header unit, this function is to clear the currently detected check code for each refrigerant circuit system without resetting the power supply.

Check codes in both outdoor and indoor units are once cleared, and check code detection is performed again.

**(3) Clearing check code by resetting power**

This function is provided to clear check code in a system by resetting the power of all the outdoor and the indoor units. As same as the clearing method by the interface P.C. board, check codes of both the outdoor and the indoor units are once cleared, and check code detection is performed again.

<Method>

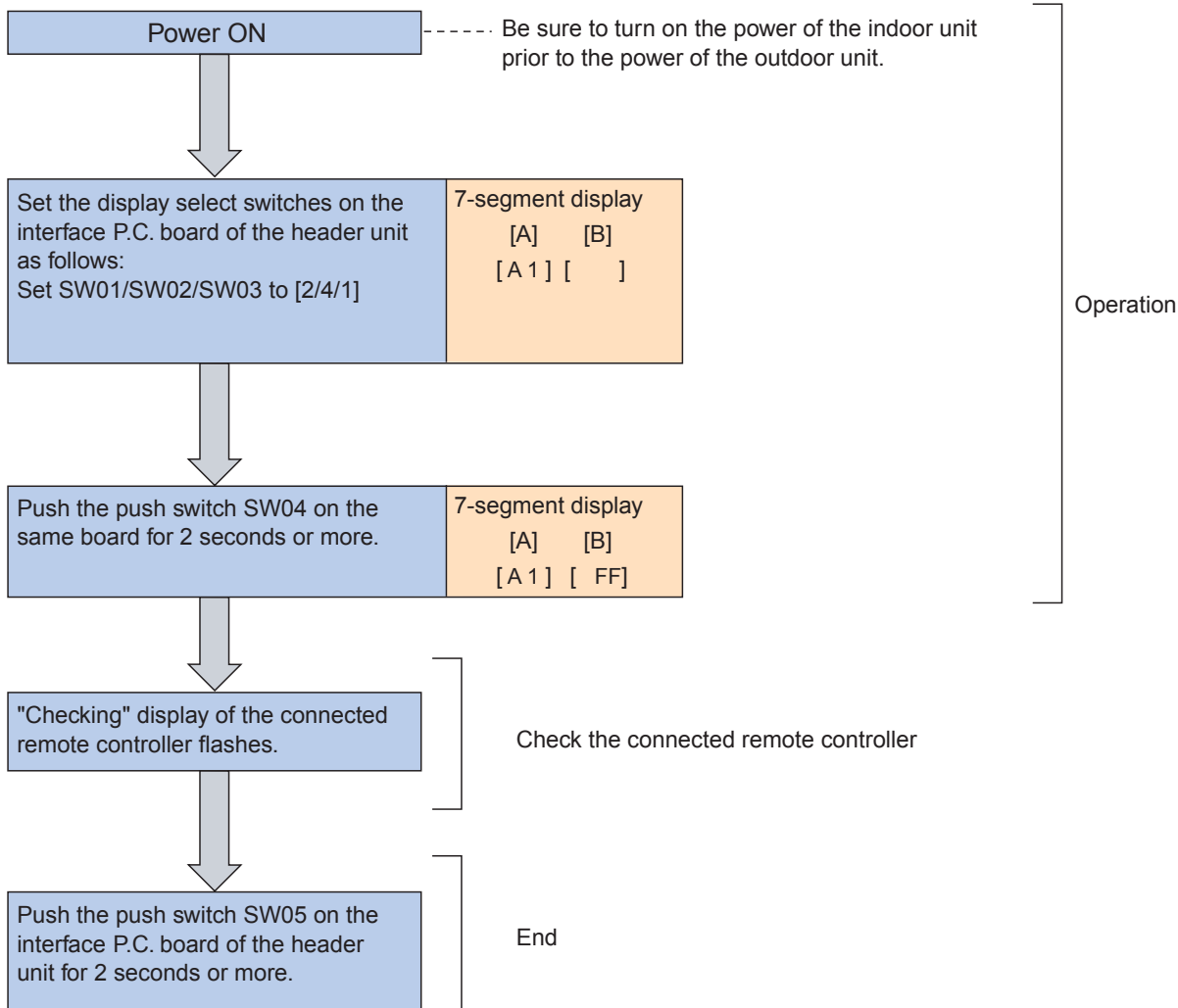
- (1) Be sure to reset power of both the outdoor and the indoor units.
- (2) Turn on the power of the indoor unit prior to the power of the outdoor unit.
(If the power is turned on in reverse order, a check code [E 19] (No. of header unit check code) is output.)

NOTE) After power reset, it requires usually 3 minutes to power-on due to the initial communication of the system. In some cases, it requires max. 10 minutes.

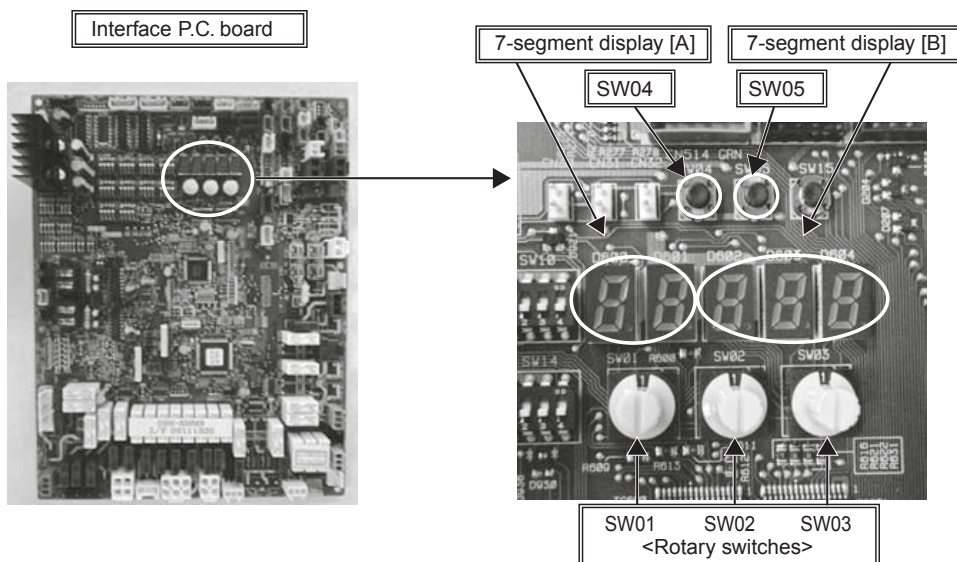
Remote Controller Distinction Function

This function is provided to distinguish the remote controller connected to the indoor unit from the outdoor unit for a refrigerant circuit system by using switches on the interface P.C. board of the header unit.

<Distinction procedure>



- Other end conditions:
1. 10 minutes has passed
 2. SW01, SW02, or SW03 changed to other position.



Pulse Motor Valve (PMV) Forced Open / Close Function in Indoor Unit

Pulse Motor Valve (PMV) Forced Open/Close Function in Indoor Unit

This function is provided to open or close forcedly PMV for 2 minutes in all the indoor units by the switch operation on the interface P.C. board of the header unit.

This function is also used to open PMV fully when turning off the power and executing an operation.

<Operation>

[Open fully]

Set the switches SW01/SW02/SW03 on the interface P.C. board of the header unit to [2/3/1], and push SW04 for 2 seconds or more.

(Display appears on 7-segment display for 2 minutes as follows.) [P] [FF]

[Close fully]

Set the switches SW01/SW02/SW03 on the interface P.C. board of the header unit to [2/3/1], and push SW05 for 2 seconds or more.

(Display appears on 7-segment display for one minute as follows.) [P] [00]

[Clear]

After 2 minutes (1 minutes for "Close fully") after setting up, the opening automatically returns to the normal opening.

Pulse Motor Valve (PMV) Forced Open fully / Close fully Function in Outdoor Unit

This function is provided to forcedly open or close fully P.M.V. (PMV1/PMV3, PMV4) used in the outdoor unit for 2 minutes.

[PMV1 Open fully]

On the interface board of the outdoor unit, set the DIP switch [SW12·bit1] to [OFF], [SW12·bit2] to [OFF], and short-circuit CN30.

[PMV1 Close fully]

On the interface board of the outdoor unit, set the DIP switch [SW12·bit1] to [OFF], [SW12·bit2] to [OFF], and short-circuit CN31.

On the interface P.C. board of the outdoor unit, set the DIP switch [SW12·bit1] to [ON], [SW12·bit2] to [OFF], and shortcircuit CN30.

[PMV3 Close fully] < Heat Recovery type Not use >

On the interface P.C. board of the outdoor unit, set the DIP switch [SW12·bit1] to [ON], [SW12·bit2] to [OFF], and shortcircuit CN31.

[PMV4 Open fully] < Heat Recovery type Not use >

On the interface board of the outdoor unit, set the DIP switch [SW12·bit1] to [OFF], [SW12·bit2] to [ON], and short-circuit CN30.

[PMV4 Close fully]

On the interface board of the outdoor unit, set the DIP switch [SW12·bit1] to [OFF], [SW12·bit2] to [ON], and short-circuit CN31.

[Clear]

For both open fully and close fully, after 2 minutes, the opening returns to the normal opening.

Be sure to remove the cord used for short-circuit after confirmation, and set the DIP switch [SW12·bit1] to [OFF] and [SW12·bit2] to [OFF].

Solenoid Valve Forced Open / Close Function in Outdoor Unit

This function is provided to forcibly open each solenoid valve mounted in the outdoor unit by the switch operation on the interface P.C. board in the outdoor unit. Use this function to check there is no refrigerant clogging with ON/OFF operation of the solenoid valve.

[Operation]

- (1) Set the switches SW01/SW02/SW03 on the interface P.C. board of the outdoor unit to [2/1/3].
- (2) When [H. r] is displayed in 7-segment display [A], keep pushing the switch SW04 for 2 seconds or more.
- (3) From when [2] is displayed in 7-segment display [B], SV2 is turned on.
- (4) After then, ON and OFF of each solenoid valve are exchanged by changing the setup number of the switch SW02.
(ON/OFF output pattern of each solenoid valve is as shown below.)

NOTE 1) Display in 7-segment display [B] is exchanged just when the number of SW02 has been changed; on the other hand, the solenoid valve output is exchanged when SW02 has been kept with the same number for 5 seconds or more.

NOTE 2) The mark [O] in the table indicates that the corresponding solenoid valve is forcibly turned on.

NOTE 3) The mark [-] in the table indicates that ON/OFF of the solenoid valve is controlled based upon the specifications of the air conditioner.

NOTE 4) The mark [x] in the table indicates that the corresponding solenoid valve is forcibly turned off with this operation.

NOTE 5) The case heater output is for both the compressor and accumulator heaters.

Cooling, Heat Pump type

SW02	7-segment display [B]	Operation pattern of solenoid valve								Case heater output relay
		SV2	SV52	SV41	SV42	SV3A	SV3B	SV3C	SV3D	
1	[2]	○	-	-	-	-	-	-	-	○
3	[52]	-	○	-	-	-	-	-	-	○
4	[41]	-	-	○	-	-	-	-	-	○
5	[42]	-	-	-	○	-	-	-	-	○
7	[3A]	-	-	-	-	○	-	-	-	○
8	[3b]	-	-	-	-	-	○	-	-	○
9	[3C]	-	-	-	-	-	-	○	-	○
10	[3d]	-	-	-	-	-	-	-	○	○
11	[3-]	-	-	-	-	○	○	○	○	○
12~15		-	-	-	-	-	-	-	-	○
16	[ALL]	○	○	○	○	○	○	○	○	○

Heat Recovery type

SW02	7-segment display [B]	Operation pattern of solenoid valve													Case heater output relay	
		SV2	SV5	SV41	SV42	SV3A	SV3B	SV3C	SV3D	SV3E	SV6	SV52	SV11	SV12		SV14
1	[2]	○	-	-	-	-	-	-	-	○	-	-	-	-	-	○
2	[5]	-	○	-	-	-	-	-	-	○	-	-	-	-	-	○
3	[41]	-	-	○	-	-	-	-	-	○	-	-	-	-	-	○
4	[42]	-	-	-	○	-	-	-	-	○	-	-	-	-	-	○
6	[3A]	-	-	-	-	○	-	-	-	○	-	-	-	-	-	○
7	[3b]	-	-	-	-	-	○	-	-	○	-	-	-	-	-	○
8	[3C]	-	-	-	-	-	-	○	x	○	-	-	-	-	-	○
9	[3d]	-	-	-	-	-	-	-	○	x	-	-	-	-	-	○
10	[3-]	-	-	-	-	○	○	○	x	○	-	-	-	-	-	○
11	[6]	-	-	-	-	-	-	-	-	○	○	-	-	-	-	○
12	[52]	-	-	-	-	-	-	-	-	○	-	○	-	-	-	○
13	[11]	-	-	-	-	-	-	-	-	○	-	-	○	-	-	○
14	[12]	-	-	-	-	-	-	-	-	○	-	-	-	○	-	○
15	[14]	-	-	-	-	-	-	-	-	○	-	-	-	-	-	○
16	[ALL]	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

[Clear]

Return switches SW01/SW02/SW03 on the interface P.C. board to [1/1/1].

NOTE) As this function is not based on the specified general control, be sure to release this mode after checking.

Fan Operation Check in Outdoor Unit

This function is provided to check the fan operation of the outdoor unit by using switches on the interface P.C. board in the outdoor unit. The frequency of the fan speed can be controlled by setting of the switches. Use this function to check the operation or abnormal sound in the fan system. And, use this function while the system is stopped.

NOTE) Do not use this function during operation of the compressor. It may damage the compressor.

[Operation]

- (1) Set the switches SW01/SW02/SW03 on the interface P.C. board of the outdoor unit to [2/1/4].
- (2) When [F. d] is displayed in 7-segment display [A], keep pushing the switch SW04 for 2 seconds or more.
- (3) When [63] is displayed in 7-segment display [B], the fan starts operation. (Max. mode operation)
- (4) After that, by changing the setup number of the switches SW02 and SW03, 7-segment display [B] and the fan mode are changed.
(Mode output pattern of the fan is as follows.)

SW02	SW03	7-segment display [B]	Fan mode
1	4	[63]	63
2		[62]	62
3		[61]	61
4		[60]	60
5		[59]	59
6		[58]	58
7		[57]	57
8		[56]	56
9		[55]	55
10		[54]	54
11		[53]	53
12		[52]	52
13		[51]	51
14		[50]	50
15		[49]	49
16		[48]	48
1	5	[47]	47
2		[46]	46
3		[45]	45
4		[44]	44
5		[43]	43
6		[42]	42
7		[41]	41
8		[40]	40
9		[39]	39
10		[38]	38
11		[37]	37
12		[36]	36
13		[35]	35
14		[34]	34
15		[33]	33
16		[32]	32

SW02	SW03	7-segment display [B]	Fan mode
1	6	[31]	31
2		[30]	30
3		[29]	29
4		[28]	28
5		[27]	27
6		[26]	26
7		[25]	25
8		[24]	24
9		[23]	23
10		[22]	22
11		[21]	21
12		[20]	20
13		[19]	19
14		[18]	18
15		[17]	17
16		[16]	16
1	7	[15]	15
2		[14]	14
3		[13]	13
4		[12]	12
5		[11]	11
6		[10]	10
7		[9]	9
8		[8]	8
9		[7]	7
10		[6]	6
11		[5]	5
12		[4]	4
13		[3]	3
14		[2]	2
15		[1]	1
16		[0]	0

[Clear]

This function is cleared by one of the following operations.

- (1) When SW01 setting number was changed to other number.
- (2) Push-switch SW05 was push for 2 seconds or more.

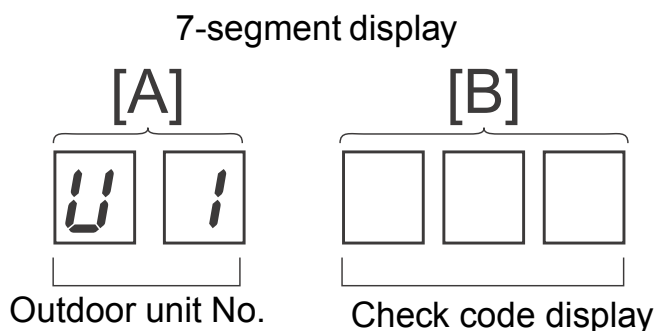
Abnormal Outdoor Unit Discrimination Method by Fan Operation Function

This function is provided to forcibly operate the fan of the outdoor unit in which a check code occurred or the fan of the normal outdoor unit by the switch operation on the interface P.C. board in the header unit. To specify which one of the follower units connected to the system had problem, use this function for the system stop due to a follower unit failure (Check code [*E2B*]).

[Operation]

<In case to operate the fan in the failed outdoor unit only>

(1) Check that the switches SW01/SW02/SW03 on the interface P.C. board in the header unit are set to [1/1/1].



(2) Press the push-switch SW04 for 2 seconds or more.

(3) [E 1] is displayed on 7-segment display [A].

(4) The fan of the outdoor unit in which check code occurred starts operation within approx. 10 seconds after [E !] was displayed.

<In case to operate the fans in all the normal outdoor units>

(1) Check that the switches SW01/SW02/SW03 on the interface P.C. board in the header unit are set to [1/1/1].

(2) Push the push switches SW04 and SW05 at the same time for 2 seconds or more.

(3) [E0] is displayed on 7-segment display [A].

(4) The fans of all the normal outdoor units start operation with the Max. fan speed within approx. 10 seconds after [E0] was displayed.

[Release]

Push the push switch SW05 on the interface P.C. board in the header unit for 2 seconds or more. The outdoor fan which was operated stops.

* Check that [U !] is displayed on 7-segment display [A], and then finish the work.

Manual Adjustment

This function is provided to fix TO sensor value manually by the switch operation on the interface P.C. board in the outdoor unit. When the unit stops abnormally due to TO sensor failure, etc, an emergent operation is available by setting up the value manually to position near the current outside temperature.

[Operation]

(1) Set the rotary switches on the interface P.C. board to numbers as follows:

- SW01/SW02/SW03 to [2/1/15]
- 7-segment display: [t o]

(2) Keep pressing the push-switch SW04 on the interface P.C. board for 1 second or more. The mode changes to the TO sensor value fix manual mode.

(3) As shown in the following table, TO sensor value can be fixed by setting the rotary switch SW02 on the interface P.C. board.

[Clear]

Return SW01/SW02/SW03 on the interface P.C. board in the outdoor unit to [1/1/1].

SW02	7-segment display [B]	T O sensor value
1	[10]	10°C
2	[15]	15°C
3	[20]	20°C
4	[25]	25°C
5	[30]	30°C
6	[35]	35°C
7	[40]	40°C
8	[43]	43°C
9	[45]	45°C
10	[-15]	-15°C
11	[-10]	-10°C
12	[- 5]	-5°C
13	[0]	0°C
14	[2]	2°C
15	[5]	5°C
16	[7]	7°C

NOTE) If operated with TO sensor fixed by this function, the system control operation of the air conditioner may not be based on the specification of the product. Therefore an emergent operation should be restricted to a day or so.

When the outside temperature is 45°C or more, set to 45°C (SW02="9")

<Service support function list>

SW01	SW02	SW03	7-segment display [A]	Function contents
2	1	1	[J . C]	Refrigerant circuit and control communication line check function (Cooling operation)
	2		[J . H]	Refrigerant circuit and control communication line check function (Heating operation)
	3		[P .]	Indoor PMV forced full open function
	4		[A . 1]	Indoor remote controller discriminating function
	5		[C .]	Cooling test operation function
	6		[H .]	Heating test operation function
	7		[C . H]	Indoor collective start/stop (ON/OFF) function
	11		[r . d]	Outdoor refrigerant recovery operation function (Pump down function)
	16		[E . r]	Check code clear function

2	1~16	3	[H . r]	Solenoid valve forced open/close function
2		4~7	[F . d]	Fan forced operation function
2		15	[t . o]	Outside temperature sensor manual adjustment function

16	1~16	1	[0 1]~[1 6]	Indoor No. 1 to 16 unit	Indoor individual start/stop (ON/OFF) function
		2	[1 7]~[3 2]	Indoor No. 17 to 32 unit	
		3	[3 3]~[4 8]	Indoor No. 33 to 48 unit	
		4	[4 9]~[6 4]	Indoor No. 49 to 64 unit	

SW01	SW02	SW03	7-segment display [A/B]	Function contents
1	1	1	[U 1] [E28]	Follower unit check code / Corresponding unit fan operation function

Refrigerant Leakage Detection

The refrigerant leakage and be confirmed by using the switches on interface PCB of the outdoor unit.

If there is a leak, the location must be found in order to recover the refrigerant. After that, implement appropriate countermeasure and refill the refrigerant to its standard volume.

Refrigerant leaks can be detected by comparing the Actual opening of PMV with the calculated opening of PMV* during the Operation.

* Calculated opening of PMV : calculated from the initial value (C.i / H.i), the pressure sensor value, the compressor's rotation speed, and the opening of PMV. The initial values are automatically saved when the specified conditions are met.

(A leak can be detected only when C.i / H.i = 1)

[Operation]

(1) Confirming the refrigerant leakage

Set SW01 to 03 as show in the following table to confrim whether the leaks are being detected.

(It also can be confirmed by remote control monitor function. Refer to monitor function of remote controller switch)

(2) Clearing the initial value

If the system is changed (e.g. indoor units are increased / replaced, outdoor units are moved, of refrigerant is refilled / increased) it is necessary to clear the initial value that had been saved.

Make sure that the compressor has stopped, and then press and hold SW04 for at least 5 seconds.

SW01	SW02	SW03	Display detail	
2	13	14	Refrigerant leakage detection	A [L. d]
				B Clear the data : [... C.L] (Only display for 5 seconds)

(3) Checking the record of the initial value

Set SW01 to 03 as shown in the following table to confirm the record of the initial value.

SW01	SW02	SW03	Display detail	
2	14	14	Colling initial value	A [C. i]
				B Incomplete : [... .. 0] Completed : [... .. 1]
2	15	14	Heating initial value	A [H. i]
				B Incomplete : [... .. 0] Completed : [... .. 1]

[Clear]

Return SW01 / SW02 / SW03 on the interface PCB in the Outdoor Unit to [1 / 1 / 1].

Note

(a) During the operation, the slow leaks can be detected.

However, if the air-conditioner can not cooling down / can not warming up / make an unusual stop, the slow leaks might not be detectable. The fast leaks always can not be detected.

(b) Poor refrigerant circulation may be detected as a refrigerant leaks.

(e.g. plugged strainers / capillaries, malfunction / clogging of the PMV / 2-way valve / 4-way valve)

(c) Due to the outside temperature, the initial value may not be recorded, or it may be impossible to determine the leakage.

(d) The initial value can not be saved until the accumulated operating time has reached at least 20 hours.

(e) The initial value can not be saved if the indoor unit's operating ratio is low.

(f) If the following indoor units are connected, leakage determination is not possible.

Air to air heat exchanger with DX coil unit.

Outdoor Interface P.C. board Function Setting

Switch / Function Setting Exchange

Part type		Exchange contents			Initial setting at shipment		
SW06	DIP SW 4 bit	bit 1	Compressor 1 backup	OFF: Normal, ON: Backup when compressor 1 was in trouble	OFF		
		bit 2	Compressor 2 backup	OFF: Normal, ON: Backup when compressor 2 was in trouble	OFF		
		All bit1 and 2 are ON: Setup of outdoor unit backup			OFF		
SW07	DIP SW 4 bit	bit 1	Demand control 1 (Standard specifications) Exchange of upper limit regulation	OFF: 0 to 100% ON : Middle to 100%	OFF		
		bit 2	Demand control 2 (Expansion function) Exchange of 2 steps to 4 steps of upper limit	OFF: 2 steps (Standard) ON : 4 steps	OFF		
SW09	DIP SW 4 bit	In case of header outdoor unit					
		bit 2	Indoor connection capacity over Judgment of error	OFF: Check code judgment ON : None (when backup setting for outdoor unit)	OFF		
		bit 4	Judgment of error for No. of connected indoor units	OFF: No check code judgment ON : Check code judgment	OFF		
		In case of terminal outdoor unit					
SW10	DIP SW 4 bit	bit 2	Outdoor fan high static pressure operation	OFF: Normal ON : High static pressure operation	OFF		
		bit 3	For low noise operation	OFF: Normal ON : INV frequency upper limit restriction	OFF		
		bit 4		OFF: Normal ON : Fan rpm upper limit restriction	OFF		
SW11	DIP SW 4 bit	bit 4	Operation switching when indoor water overflow error detected	OFF: Entire system stops ON : System operation continues (Room which trouble occurred only stops.)	OFF		
SW12	DIP SW 4 bit	bit 1	Selection of PMV open/close or manual operation	(According to the following setting contents)		OFF	
		bit 2			OFF		
			bit 1	bit 2	OFF	OFF	PMV1 opens/closes by operation of CN30/CN31 (*1)
			ON	OFF	PMV3 opens/closes by operation of CN30/CN31 (*1)	Heat Recovery Not use	
			OFF	ON	PMV4 opens/closes by operation of CN30/CN31 (*1)		
SW13	DIP SW 4 bit	bit 4	Line address setup	(Used by combining with SW14)	OFF		
SW14	DIP SW 4 bit	bit 1	Line address setup		OFF		
		bit 2			OFF		
		bit 3			OFF		
		bit 4			OFF		
SW16	DIP SW 4 bit	bit 1	Option function Output exchange of external output P.C. boa	(According to the following setting contents)		OFF	
		bit 2			OFF		
			bit 1	bit 2	OFF	OFF	Compressor operation output
			ON	OFF	Display of system operation ratio		
SW30	DIP SW 2 bit	bit 1	Communication termination resistance between outdoor units	OFF: No termination resistance ON : With termination resistance	ON		
		bit 2	Communication termination resistance between indoor and outdoor units	OFF: No termination resistance ON : With termination resistance	ON		
CN30	Check connector	Manual full opening operation for PMV opening operation			When released: Normal, When short-circuited: Open fully (2 minutes)	Released	
CN31	Check connector	Manual full closing operation for PMV opening operation			When released: Normal, When short-circuited: Closed fully (2 minutes)	Released	

*1 PMV full open/full close operation by short-circuited CN30/CN31 is for PMV which was selected by setting of SW12.

Switching of Jumper Wire/Function**Cooling, Heat pump type**

Setup Function switching setup

○ : With jumper, X : Without jumper (Cut)

Jumper	Part type	Exchange contents		Initial setting at shipment
J01	Optional function Operation mode selection operation switching	○	Indoor unit at not selected side is kept with waiting status.	○
		×	The mode is changed a mode which selected the operation mode of the indoor unit at not selected side.	
J04	Upper limit setup of demand capacity command in corresponding indoor during saving operation in indoor	○	Approx. 75% (Normal)	○
		×	Approx. 60%	
J16	Demand control 1 (Standard specification) Corresponds to 2-core wire	○	Normal (3-core wire <Successive MAKE signal> or 4-core wire <Successive MAKE or Pulse signal>)	○
		×	2-core wire <Successive MAKE signal>	

*4 When you replace the board with a service board, be sure to cut the jumper wire matching with the outdoor unit model to be installed. (The jumper wires J09 to J12 which were mounted at shipment from the factory are provided to all the boards regardless of model type.)

List of Check Codes Generated upon Occurrence of Leakage/Clogging in Outdoor Cycle or Oil Circuit Part (MMY-MAP0806*, 1006*, 1206*)

Clogging

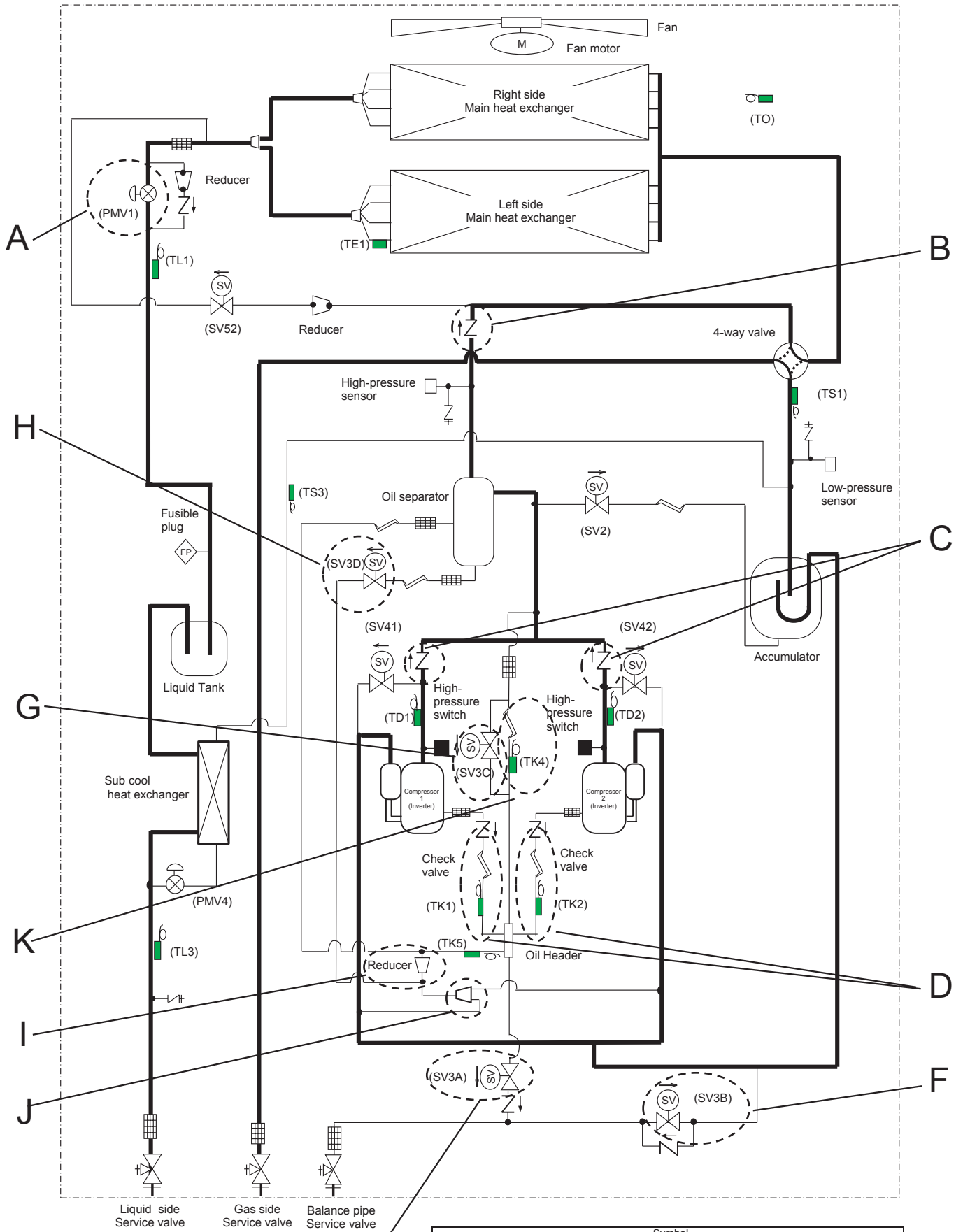
Part	Location of problem (see next page)	Unit generating check code	Detected failure and check code		Symptom
Outdoor PMV1	A	Corresponding unit	Activation of high-pressure protection Activation of low-pressure protection Discharge temp. trouble (TD1) Discharge temp. trouble (TD2)	P20 H06 P03 P17	Rise of pressure Fall of pressure Rise of discharge temp. (compressor 1) Rise of discharge temp. (compressor 2)
Check valve in discharge pipe convergent section		Corresponding unit	High-pressure protection trouble High-pressure SW system trouble	P20 P04-XX	Abnormal rise of pressure
Check valve in discharge pipe	C	Corresponding unit	High-pressure SW system trouble	P04-XX	Abnormal rise of pressure
Check valve in oil-equalization circuit Capillary Strainer	D	Corresponding unit	Oil level detection circuit trouble Oil level low detection and protection	H16-XX H07	Oil circuit trouble or oil level low
SV3A valve	E	Other connected unit	Oil level low detection and protection	H07	Oil level low
SV3B valve	F	Corresponding unit	Oil level low detection and protection	H07	Oil level low
SV3C valve	G	Other connected unit	Oil level low detection and protection	H07	Oil level low
SV3D valve SV3D valve circuit capillary Strainer	H	Corresponding unit	Oil level low detection and protection	H07	Oil level low
Reducer	I	Corresponding unit	Oil level detection circuit trouble Oil level low detection and protection	H16-05 H07	Oil circuit trouble Oil level low Oil level low
Oil return distributor	J	Corresponding unit	Oil level low detection and protection	H07	Oil level low
SV3C bypass capillary	K	Corresponding unit	Oil level detection circuit trouble	H16-04	Oil circuit trouble

Leakage

Part	Location of problem (see next page)	Unit generating check code	Detected failure and check code		Symptom
Outdoor PMV1	A	Corresponding unit	Outdoor liquid backflow trouble Oil level low detection and protection	P13 H07	Refrigerant entrapment
		Other connected unit	Discharge temp. trouble (TD1) Discharge temp. trouble (TD2)	P03 P17	Rise of discharge temp. (compressor 1) Rise of discharge temp. (compressor 2)
Check valve in discharge pipe convergent section	B	Corresponding unit	Oil level low detection and protection Compressor breakdown Compressor error (lockup)	H07 H01-XX H02-XX	Refrigerant entrapment
Check valve in discharge pipe	C	Corresponding unit	Oil level low detection and protection Compressor breakdown Compressor trouble (lockup)	H07 H01-XX H02-XX	Refrigerant entrapment
Check valve in oil-equalization circuit	D	Corresponding unit	Oil level low detection and protection	H07	Excessive amount of oil (Leaking side) Insufficient amount of oil (Normal side)
SV3A valve	E	Corresponding unit	Oil level low detection and protection	H07	Oil level low
SV3C valve	G	Corresponding unit	Oil level low detection and protection	H07	Oil level low

Note: "XX" represents sub-code

Refrigerant Cycle Circuit

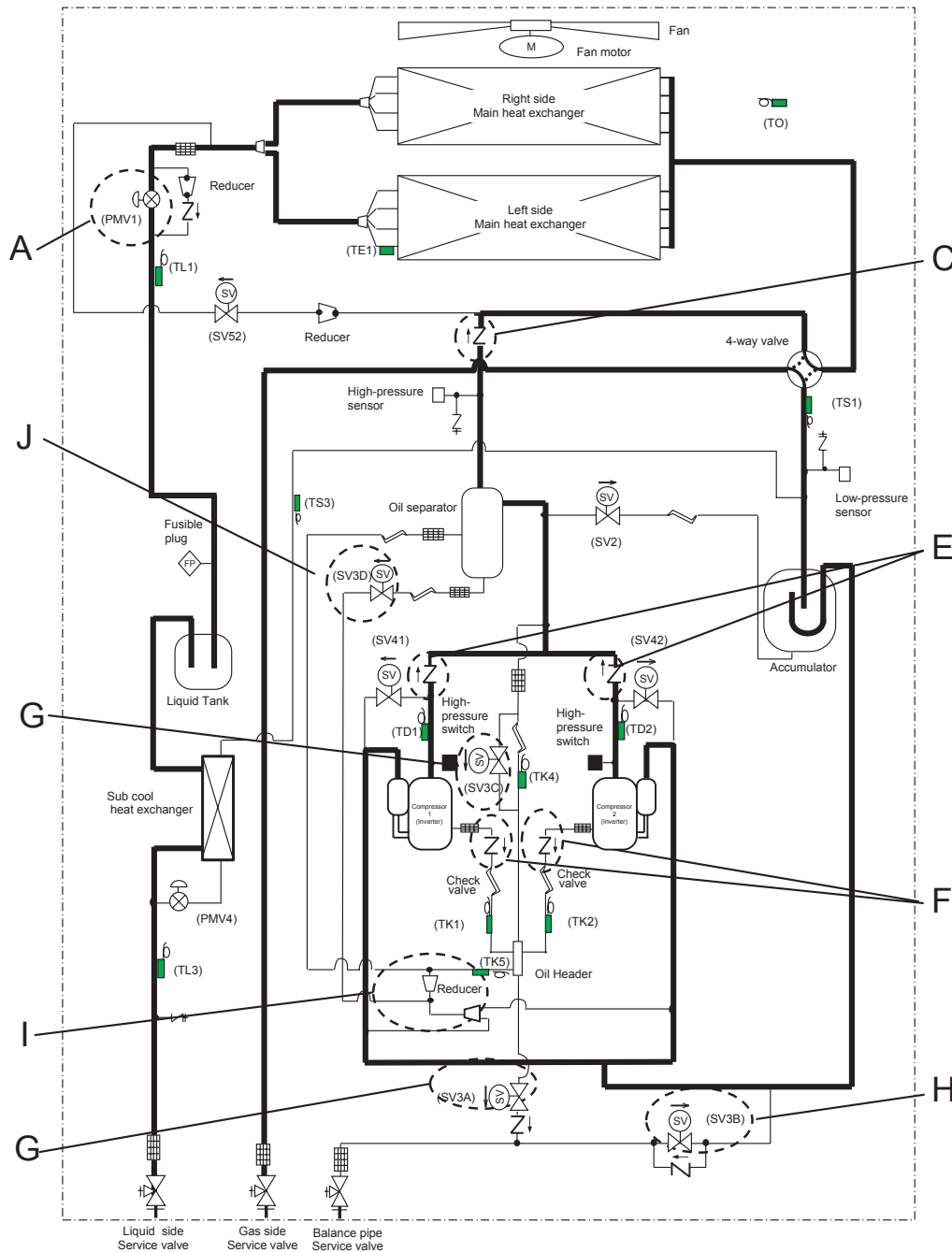


Symbol						
Solenoid valve	Capillary tube	Check valve	Check joint	Strainer	Temperature sensor	Distributor

<MMY-MAP0806 *, MAP1006* and MAP1206* >

Check items and procedures to follow when checking oil circuit with compressor(s) disconnected

Check item	Location	Procedure
Leakage of outdoor PMV Leakage of check valve in discharge pipe convergent section	A,C	1) With PMV1 fully closed, apply pressure to the check joint of liquid pipe with nitrogen, and check the pressure at the check joint of discharge pipe. If the pressure at the check joint of discharge pipe increases, there is a leak from PMV1 (A) and check valve of discharge pipe (C). Replace the faulty parts. 2) If the pressure does not increase, fully open outdoor PMV 1 and check the pressure at the check joint of discharge pipe again. If the pressure increases, there is a leak from the check valve of discharge pipe (C). Replace the part.
Leakage of check valve in discharge pipe	E	3) With pressure applied to the check joint of discharge pipe with nitrogen, if gas escapes from the discharge pipe section of the disconnected compressor, there is a leak from the check valve of discharge pipe (E). Replace the part.
Leakage of check valve in oil equalization circuit	F	4) With pressure applied to the check joint of discharge pipe with nitrogen, if gas escapes from the oil equalization pipe section of the disconnected compressor, there is a leak from the oil equalization pipe check valve (F). Replace the part.
Leakage of SV3A valve	G	5) With pressure applied to the check joint of discharge pipe with nitrogen, manually open the SV3B valve. If gas escapes from the suction pipe section of the disconnected compressor, there is a leak from the SV3A valve. Replace the part.
Leakage of SV3B valve	H	6) Then manually open the SV3A valve. If gas escapes from the suction pipe section of the disconnected compressor, there is a leak from the SV3B valve. Replace the part.
Clogging of SV3D valve Clogging of oil-return capillary Clogging of oil-return distributor	J	7) With pressure applied to the check joint of discharge pipe with nitrogen, manually open the SV3D valve. If gas does not escape from the suction pipe section of the disconnected compressor, the SV3D valve, oil-return capillary or oil-return distributor is clogged. Replace the part.



List of Check Codes Generated upon Occurrence of Leakage/Clogging in Outdoor Cycle or Oil Circuit Part (MMY-MAP1406 * , 1606 *)

Clogging

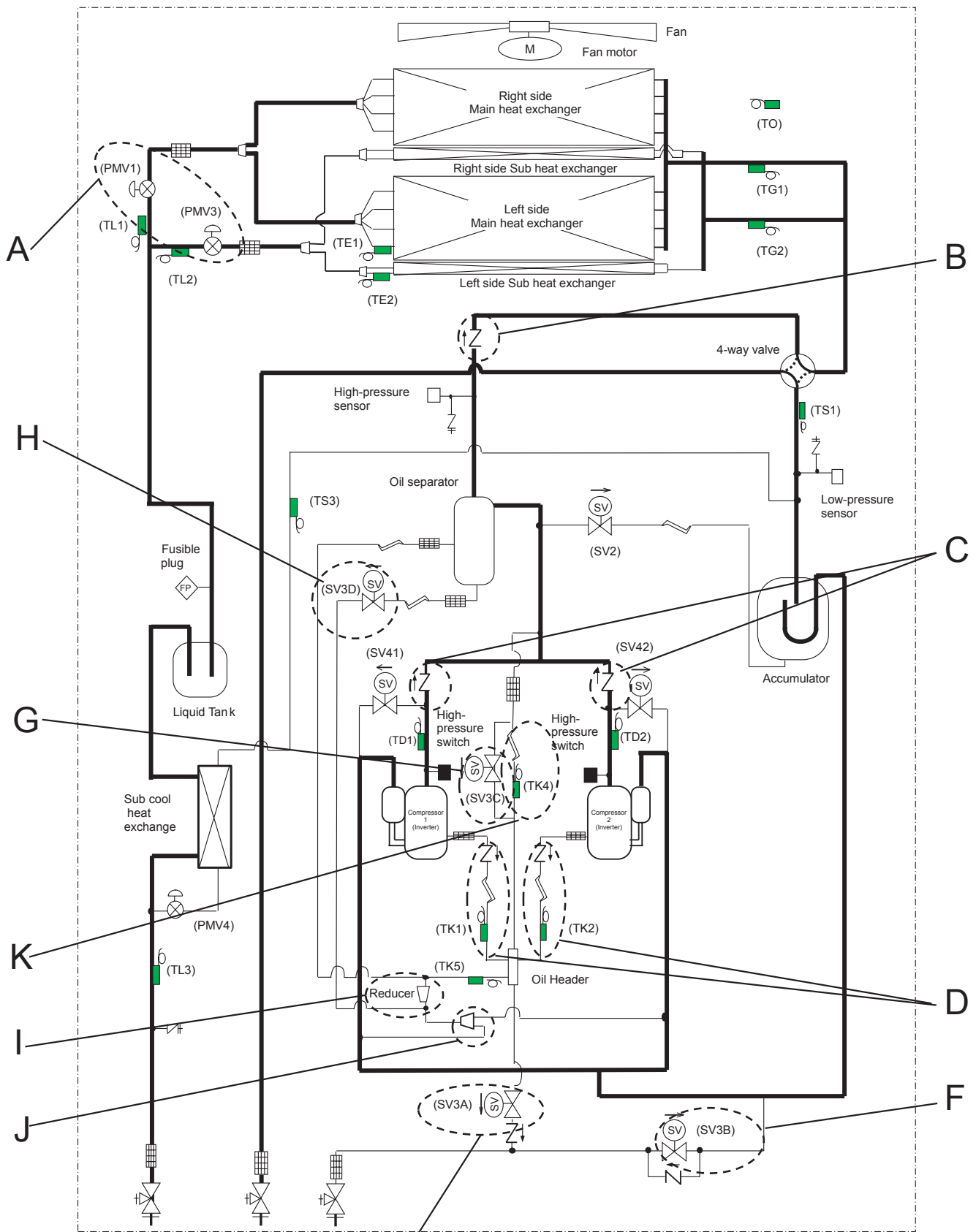
Part	Location of problem (see next page)	Unit generating check code	Detected failure and check code		Symptom
Outdoor PMV1, 3	A	Corresponding unit	Activation of high-pressure protection Activation of low-pressure protection Discharge temp. trouble (TD1) Discharge temp. trouble (TD2)	P20 H06 P03 P17	Rise of pressure Fall of pressure Rise of discharge temp. (compressor 1) Rise of discharge temp. (compressor 2)
Check valve in discharge pipe convergent section	B	Corresponding unit	High-pressure protection trouble High-pressure SW system trouble	P20 P04-XX	Abnormal rise of pressure
Check valve in discharge pipe	C	Corresponding unit	High-pressure SW system trouble	P04-XX	Abnormal rise of pressure
Check valve in oil-equalization circuit Capillary Strainer	D	Corresponding unit	Oil level detection circuit trouble Oil level low detection and protection	H16-XX H07	Oil circuit trouble or oil level low
SV3A valve	E	Other connected unit	Oil level low detection and protection	H07	Oil level low
SV3B valve	F	Corresponding unit	Oil level low detection and protection	H07	Oil level low
SV3C valve	G	Other connected unit	Oil level low detection and protection	H07	Oil level low
SV3D valve SV3D valve circuit capillary Strainer	H	Corresponding unit	Oil level low detection and protection	H07	Oil level low
Reducer	I	Corresponding unit	Oil level detection circuit trouble Oil level low detection and protection	H16-05 H07	Oil circuit trouble Oil level low Oil level low
Oil return distributor	K	Corresponding unit	Oil level low detection and protection	H07	Oil level low
SV3C bypass capillary	L	Corresponding unit	Oil level detection circuit trouble	H16-04	Oil circuit trouble

Leakage

Part	Location of problem (see next page)	Unit generating check code	Detected failure and check code		Symptom
Outdoor PMV1	A	Corresponding unit	Outdoor liquid backflow trouble Oil level low detection and protection	P13 H07	Refrigerant entrapment
		Other connected unit	Discharge temp. trouble (TD1) Discharge temp. trouble (TD2)	P03 P17	Rise of discharge temp. (compressor 1) Rise of discharge temp. (compressor 2)
Check valve in discharge pipe convergent section	B	Corresponding unit	Oil level low detection and protection Compressor breakdown Compressor error (lockup)	H07 H01-XX H02-XX	Refrigerant entrapment
Check valve in discharge pipe	C	Corresponding unit	Oil level low detection and protection Compressor breakdown Compressor trouble (lockup)	H07 H01-XX H02-XX	Refrigerant entrapment
Check valve in oil-equalization circuit	D	Corresponding unit	Oil level low detection and protection	H07	Excessive amount of oil (Leaking side) Insufficient amount of oil (Normal side)
SV3A valve	E	Corresponding unit	Oil level low detection and protection	H07	Oil level low
SV3C valve	G	Corresponding unit	Oil level low detection and protection	H07	Oil level low

Note: "XX" represents sub-code

Outdoor Unit (14, 16HP)
 Model : MMY-MAP1406*, CMMY-MAP1606*

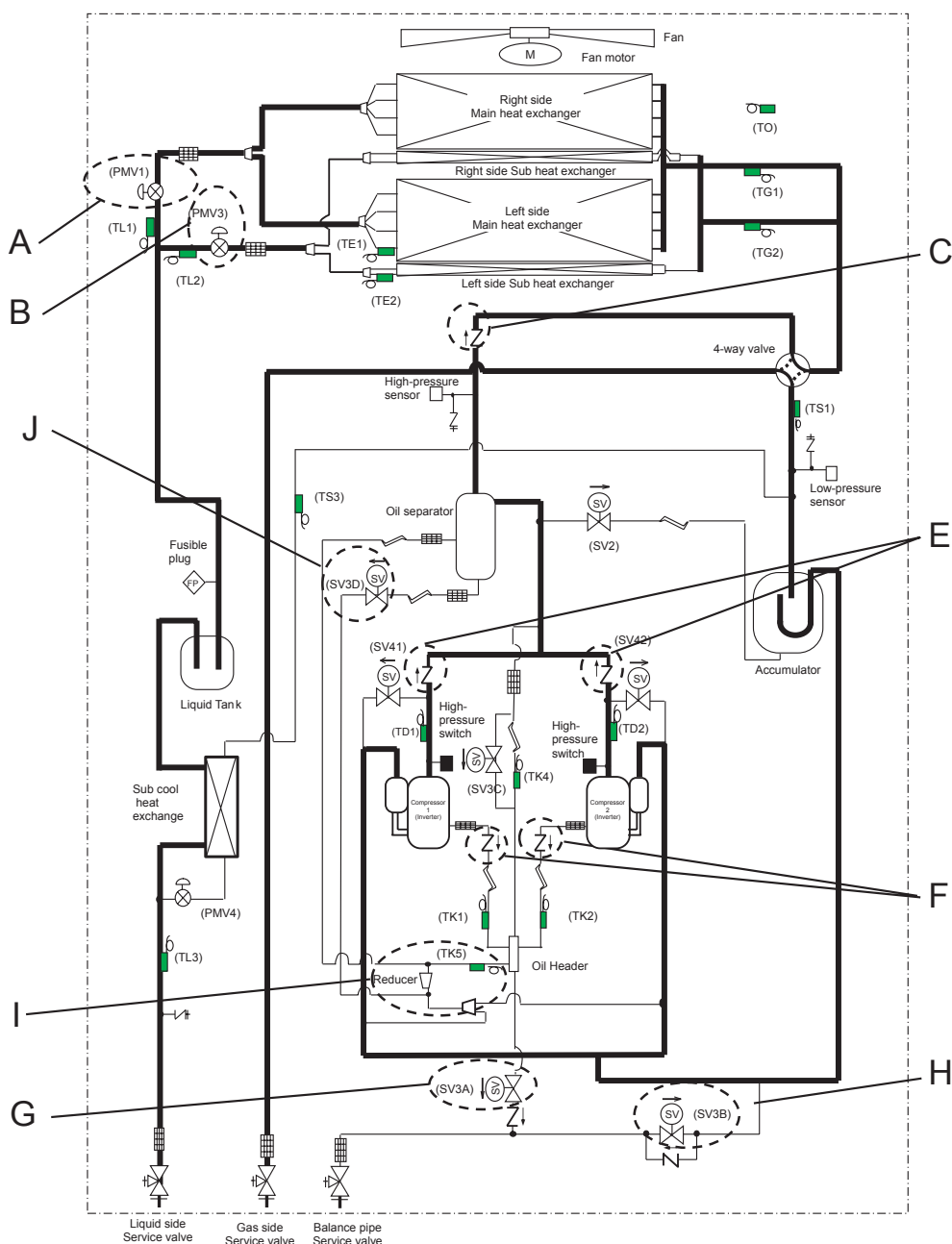


Symbol						
Solenoid valve	Capillary tube	Check valve	Check joint	Strainer	Temperature sensor	Distributor

<MMY-MAP1406 * and MAP1606 * >

Check items and procedures to follow when checking oil circuit with compressor(s) disconnected

Check item	Location	Procedure
Leakage of outdoor PMV Leakage of check valve in discharge pipe convergent section	A, B C	1) With PMV1 and 3 fully closed, apply pressure to the check joint of liquid pipe with nitrogen, and check the pressure at the check joint of discharge pipe. If the pressure at the check joint of discharge pipe increases, there is a leak PMV1(A) or 3(B) and check valve of discharge pipe (C). Replace the faulty parts. 2) If the pressure does not increase, fully open outdoor PMV1 and 3 and check the pressure at the check joint of discharge pipe again. If the pressure increases, there is a leak from the check valve of discharge pipe (C). Replace the part.
Leakage of check valve in discharge pipe	E	3) With pressure applied to the check joint of discharge pipe with nitrogen, if gas escapes from the discharge pipe section of the disconnected compressor, there is a leak from the check valve of discharge pipe (E). Replace the part.
Leakage of check valve in oil equalization circuit	F	4) With pressure applied to the check joint of discharge pipe with nitrogen, if gas escapes from the oil equalization pipe section of the disconnected compressor, there is a leak from the oil equalization pipe check valve (F). Replace the part.
Leakage of SV3A valve	G	5) With pressure applied to the check joint of discharge pipe with nitrogen, manually open the SV3B valve. If gas escapes from the suction pipe section of the disconnected compressor, there is a leak from the SV3A valve. Replace the part.
Leakage of SV3B valve	H	6) Then manually open the SV3A valve. If gas escapes from the suction pipe section of the disconnected compressor, there is a leak from the SV3B valve. Replace the part.
Clogging of SV3D valve Clogging of oil-return capillary Clogging of oil-return distributor	J	7) With pressure applied to the check joint of discharge pipe with nitrogen, manually open the SV3D valve. If gas does not escape from the suction pipe section of the disconnected compressor, the SV3D valve, oil-return capillary or oil-return distributor is clogged. Replace the part.



List of Check Codes Generated upon Occurrence of Leakage/Clogging in Outdoor Cycle or Oil Circuit Part (MMY-MAP1406* , 1606*)

Clogging

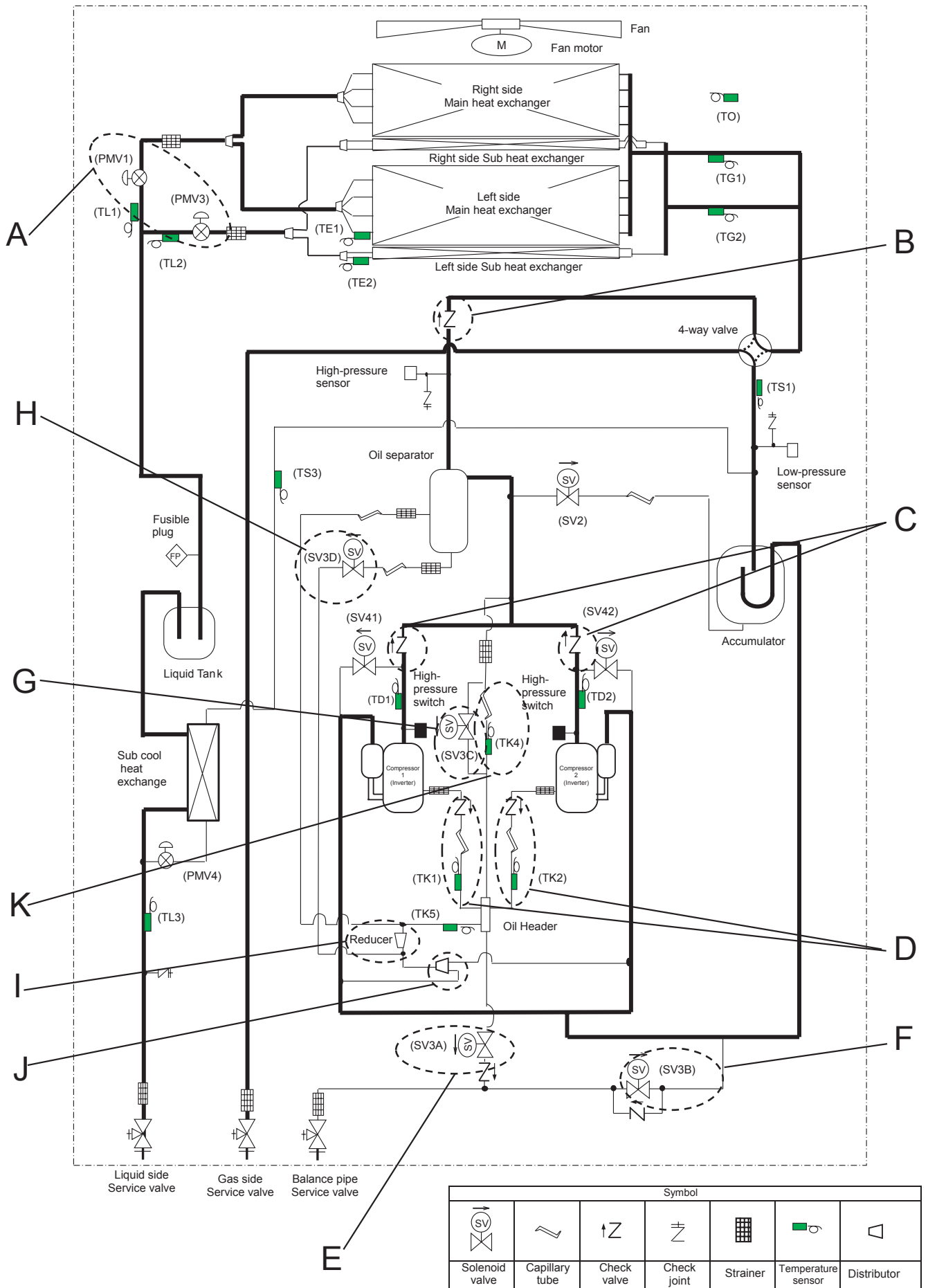
Part	Location of problem (see next page)	Unit generating check code	Detected failure and check code		Symptom
Outdoor PMV1, 3	A	Corresponding unit	Activation of high-pressure protection Activation of low-pressure protection Discharge temp. trouble (TD1) Discharge temp. trouble (TD2)	P20 H06 P03 P17	Rise of pressure Fall of pressure Rise of discharge temp. (compressor 1) Rise of discharge temp. (compressor 2)
Check valve in discharge pipe convergent section	B	Corresponding unit	High-pressure protection trouble High-pressure SW system trouble	P20 P04-XX	Abnormal rise of pressure
Check valve in discharge pipe	C	Corresponding unit	High-pressure SW system trouble	P04-XX	Abnormal rise of pressure
Check valve in oil-equalization circuit Capillary Strainer	D	Corresponding unit	Oil level detection circuit trouble Oil level low detection and protection	H16-XX H07	Oil circuit trouble or oil level low
SV3A valve	E	Other connected unit	Oil level low detection and protection	H07	Oil level low
SV3B valve	F	Corresponding unit	Oil level low detection and protection	H07	Oil level low
SV3C valve	G	Other connected unit	Oil level low detection and protection	H07	Oil level low
SV3D valve SV3D valve circuit capillary Strainer	H	Corresponding unit	Oil level low detection and protection	H07	Oil level low
Reducer	I	Corresponding unit	Oil level detection circuit trouble Oil level low detection and protection	H16-05 H07	Oil circuit trouble Oil level low Oil level low
Oil return distributor	K	Corresponding unit	Oil level low detection and protection	H07	Oil level low
SV3C bypass capillary	L	Corresponding unit	Oil level detection circuit trouble	H16-04	Oil circuit trouble

Leakage

Part	Location of problem (see next page)	Unit generating check code	Detected failure and check code		Symptom
Outdoor PMV1	A	Corresponding unit	Outdoor liquid backflow trouble Oil level low detection and protection	P13 H07	Refrigerant entrapment
		Other connected unit	Discharge temp. trouble (TD1) Discharge temp. trouble (TD2)	P03 P17	Rise of discharge temp. (compressor 1) Rise of discharge temp. (compressor 2)
Check valve in discharge pipe convergent section	B	Corresponding unit	Oil level low detection and protection Compressor breakdown Compressor error (lockup)	H07 H01-XX H02-XX	Refrigerant entrapment
Check valve in discharge pipe	C	Corresponding unit	Oil level low detection and protection Compressor breakdown Compressor trouble (lockup)	H07 H01-XX H02-XX	Refrigerant entrapment
Check valve in oil-equalization circuit	D	Corresponding unit	Oil level low detection and protection	H07	Excessive amount of oil (Leaking side) Insufficient amount of oil (Normal side)
SV3A valve	E	Corresponding unit	Oil level low detection and protection	H07	Oil level low
SV3C valve	G	Corresponding unit	Oil level low detection and protection	H07	Oil level low

Note: "XX" represents sub-code

Outdoor Unit (14, 16HP)
 Model : MMY-MAP1406*, CMMY-MAP1606*

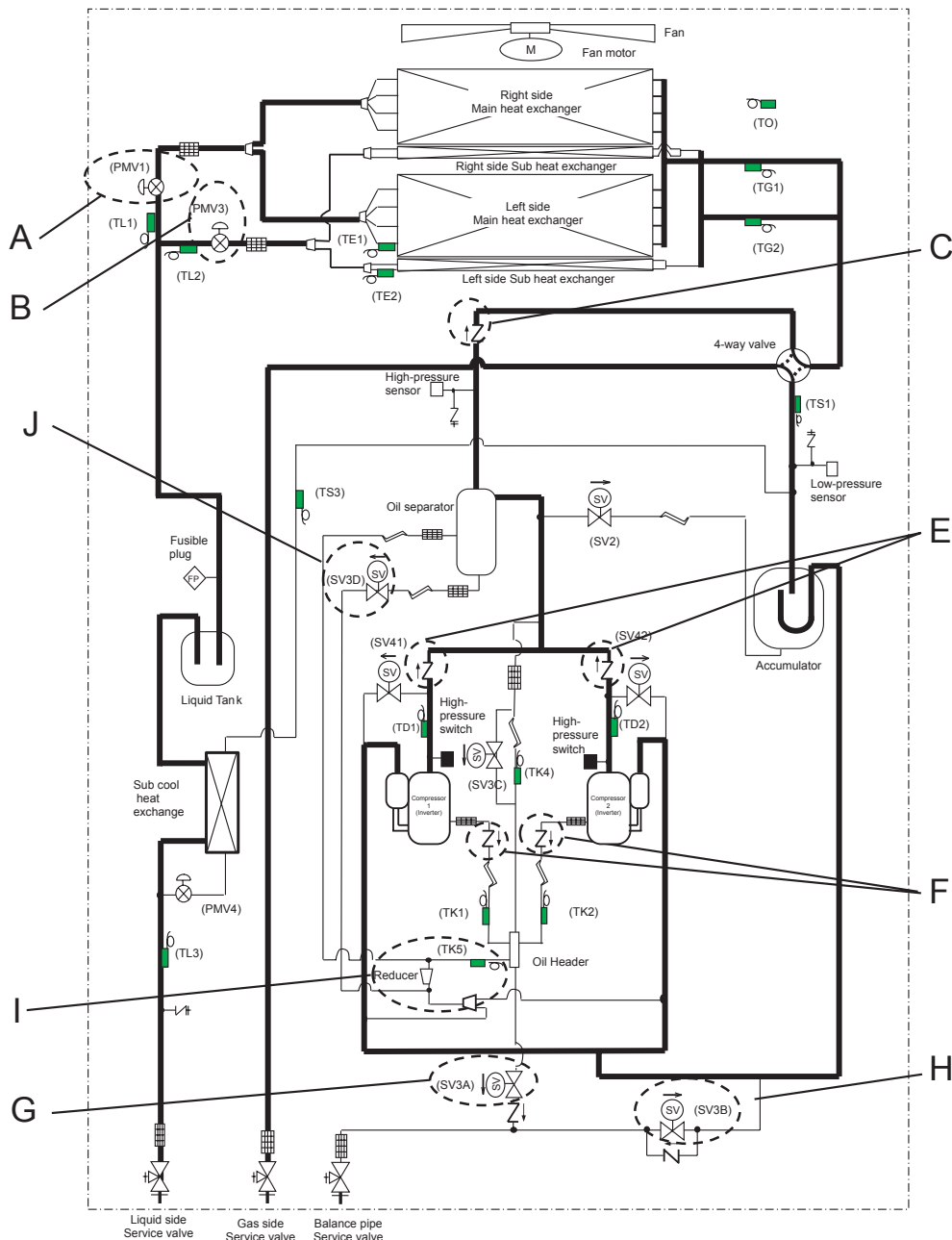


Symbol						
Solenoid valve	Capillary tube	Check valve	Check joint	Strainer	Temperature sensor	Distributor

<MMY-MAP1406* and MAP1606* >

Check items and procedures to follow when checking oil circuit with compressor(s) disconnected

Check item	Location	Procedure
Leakage of outdoor PMV Leakage of check valve in discharge pipe convergent section	A, B C	1) With PMV1 and 3 fully closed, apply pressure to the check joint of liquid pipe with nitrogen, and check the pressure at the check joint of discharge pipe. If the pressure at the check joint of discharge pipe increases, there is a leak PMV1(A) or 3(B) and check valve of discharge pipe (C). Replace the faulty parts. 2) If the pressure does not increase, fully open outdoor PMV1 and 3 and check the pressure at the check joint of discharge pipe again. If the pressure increases, there is a leak from the check valve of discharge pipe (C). Replace the part.
Leakage of check valve in discharge pipe	E	3) With pressure applied to the check joint of discharge pipe with nitrogen, if gas escapes from the discharge pipe section of the disconnected compressor, there is a leak from the check valve of discharge pipe (E). Replace the part.
Leakage of check valve in oil equalization circuit	F	4) With pressure applied to the check joint of discharge pipe with nitrogen, if gas escapes from the oil equalization pipe section of the disconnected compressor, there is a leak from the oil equalization pipe check valve (F). Replace the part.
Leakage of SV3A valve	G	5) With pressure applied to the check joint of discharge pipe with nitrogen, manually open the SV3B valve. If gas escapes from the suction pipe section of the disconnected compressor, there is a leak from the SV3A valve. Replace the part.
Leakage of SV3B valve	H	6) Then manually open the SV3A valve. If gas escapes from the suction pipe section of the disconnected compressor, there is a leak from the SV3B valve. Replace the part.
Clogging of SV3D valve Clogging of oil-return capillary Clogging of oil-return distributor	J	7) With pressure applied to the check joint of discharge pipe with nitrogen, manually open the SV3D valve. If gas does not escape from the suction pipe section of the disconnected compressor, the SV3D valve, oil-return capillary or oil-return distributor is clogged. Replace the part.



List of Check Codes Generated upon Occurrence of Leakage/Clogging in Outdoor Cycle or Oil Circuit Part (MMY-MAP1806* , MAP2006* and MAP2206*)

Clogging

Part	Location of problem (see next page)	Unit generating check code	Detected failure and check code		Symptom
Outdoor PMV1, 3	A	Corresponding unit	Activation of high-pressure protection Activation of low-pressure protection Discharge temp. trouble (TD1) Discharge temp. trouble (TD2)	P20 H06 P03 P17	Rise of pressure Fall of pressure Rise of discharge temp. (compressor 1) Rise of discharge temp. (compressor 2)
Check valve in discharge pipe convergent section	B	Corresponding unit	High-pressure protection trouble High-pressure SW system trouble	P20 P04-XX	Abnormal rise of pressure
Check valve in discharge pipe	C	Corresponding unit	High-pressure SW system trouble	P04-XX	Abnormal rise of pressure
Check valve in oil-equalization circuit Capillary Strainer	D	Corresponding unit	Oil level detection circuit trouble Oil level low detection and protection	H16-XX H07	Oil circuit trouble or oil level low
SV3A valve	E	Other connected unit	Oil level low detection and protection	H07	Oil level low
SV3B valve	F	Corresponding unit	Oil level low detection and protection	H07	Oil level low
SV3C valve	G	Other connected unit	Oil level low detection and protection	H07	Oil level low
SV3D valve SV3D valve circuit capillary Strainer	H	Corresponding unit	Oil level low detection and protection	H07	Oil level low
Reducer	I	Corresponding unit	Oil level detection circuit trouble Oil level low detection and prote	H16-05 H07	Oil circuit trouble Oil level low Oil level low
Oil return distributor	K	Corresponding unit	Oil level low detection and protection	H07	Oil level low
SV3C bypass capillary	L	Corresponding unit	Oil level detection circuit trouble	H16-04	Oil circuit trouble

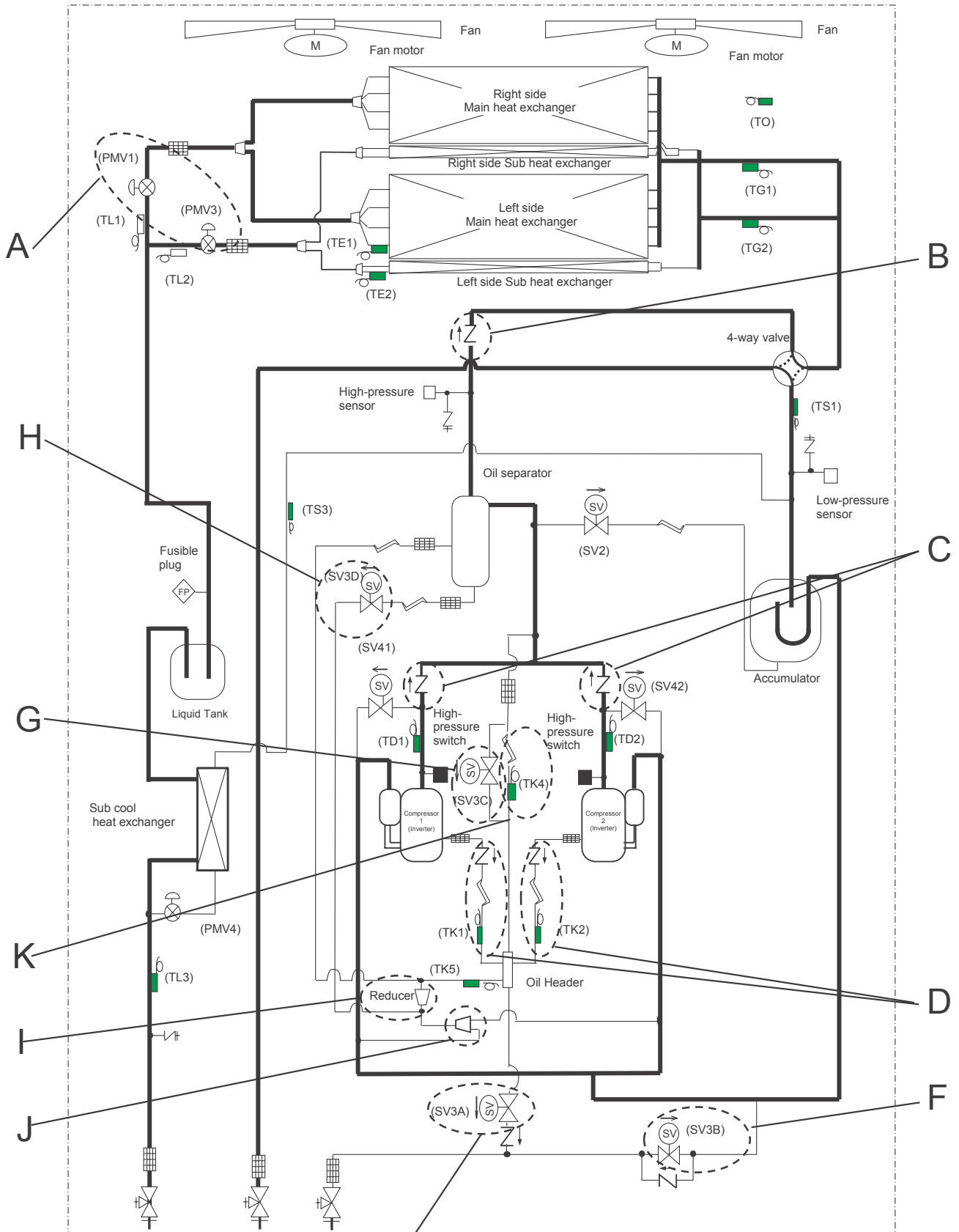
Leakage

Part	Location of problem (see next page)	Unit generating check code	Detected failure and check code		Symptom
Outdoor PMV1	A	Corresponding unit	Outdoor liquid backflow trouble Oil level low detection and prote	P13 H07	Refrigerant entrapment
		Other connected unit	Discharge temp. trouble (TD1) Discharge temp. trouble (TD2)	P03 P17	Rise of discharge temp. (compressor 1) Rise of discharge temp. (compressor 2)
Check valve in discharge pipe convergent section	B	Corresponding unit	Oil level low detection and protection Compressor breakdown Compressor error (lockup)	H07 H01-XX H02-XX	Refrigerant entrapment
Check valve in discharge pipe	C	Corresponding unit	Oil level low detection and protection Compressor breakdown Compressor trouble (lockup)	H07 H01-XX H02-XX	Refrigerant entrapment
Check valve in oil-equalization circuit	D	Corresponding unit	Oil level low detection and protection	H07	Excessive amount of oil (Leaking side) Insufficient amount of oil (Normal side)
SV3A valve	E	Corresponding unit	Oil level low detection and protection	H07	Oil level low
SV3C valve	G	Corresponding unit	Oil level low detection and protection	H07	Oil level low

Note: "XX" represents sub-code

Outdoor Unit (18, 20, 22HP)

Model : MMY-MAP1806*, MMY-MAP2006*, MMY-MAP2206*

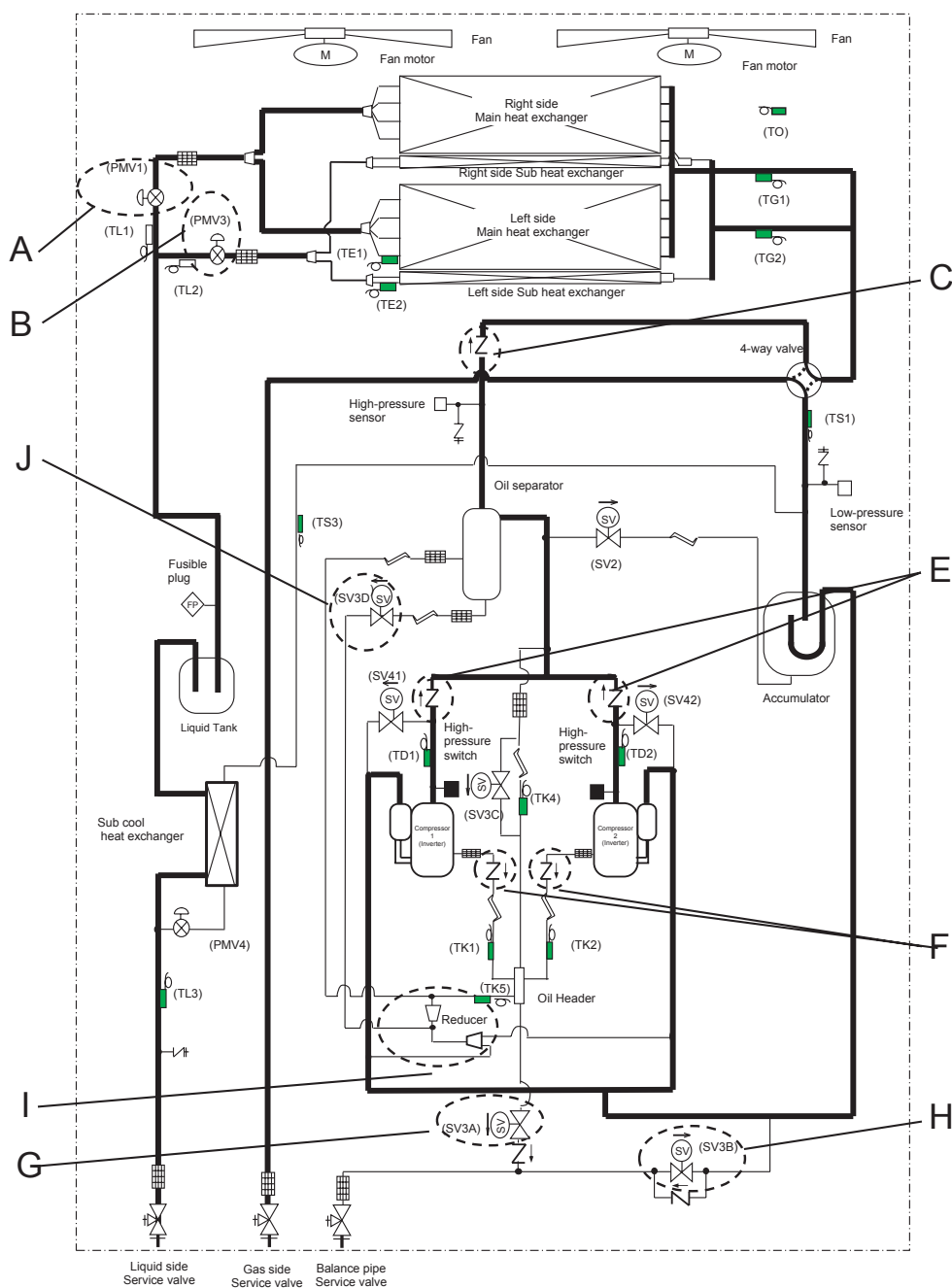


Symbol						
Solenoid valve	Capillary tube	Check valve	Check joint	Strainer	Temperature sensor	Distributor

<MMY-MAP1806* , MAP2006* and MAP2206* >

Check items and procedures to follow when checking oil circuit with compressor(s) disconnected

Check item	Location	Procedure
Leakage of outdoor PMV Leakage of check valve in discharge pipe convergent section	A,B	1) With PMV1 and 3 fully closed, apply pressure to the check joint of liquid pipe with nitrogen, and check the pressure at the check joint of discharge pipe. If the pressure at the check joint of discharge pipe increases, there is a leak from PMV1(A) or 3(B) and check valve of discharge pipe (C). Replace the faulty parts. 2) If the pressure does not increase, fully open outdoor PMV1 and 3 and check the pressure at the check joint of discharge pipe again. If the pressure increases, there is a leak from the check valve of discharge pipe (C). Replace the part.
Leakage of check valve in discharge pipe	E	3) With pressure applied to the check joint of discharge pipe with nitrogen, if gas escapes from the discharge pipe section of the disconnected compressor, there is a leak from the check valve of discharge pipe (E). Replace the part.
Leakage of check valve in oil equalization circuit	F	4) With pressure applied to the check joint of discharge pipe with nitrogen, if gas escapes from the oil equalization pipe section of the disconnected compressor, there is a leak from the oil equalization pipe check valve (F). Replace the part.
Leakage of SV3A valve	G	5) With pressure applied to the check joint of discharge pipe with nitrogen, manually open the SV3B valve. If gas escapes from the suction pipe section of the disconnected compressor, there is a leak from the SV3A valve. Replace the part.
Leakage of SV3B valve	H	6) Then manually open the SV3A valve. If gas escapes from the suction pipe section of the disconnected compressor, there is a leak from the SV3B valve. Replace the part.
Clogging of SV3D valve Clogging of oil-return capillary Clogging of oil-return distributor	J	7) With pressure applied to the check joint of discharge pipe with nitrogen, manually open the SV3D valve. If gas does not escape from the suction pipe section of the disconnected compressor, the SV3D valve, oil-return capillary or oil-return distributor is clogged. Replace the part.



This product offers backup modes of operation to tide over certain emergency situations. If a failure occurs in one of the compressors, it is possible to operate the system on an emergency basis by operating only the remaining compressor, (compressor backup operation).

If one of the outdoor units fails in a combined outdoor unit system, the system can be operated on an emergency basis by keeping only the remaining outdoor unit(s), (outdoor unit backup operation).

Perform backup operation setting in accordance with the procedure described below.

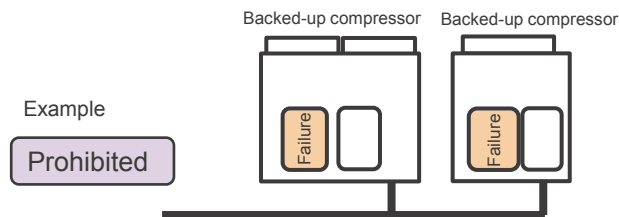
Note for Backup Operation

The method of backup operation differs according to the contents of fault as shown in the table below.

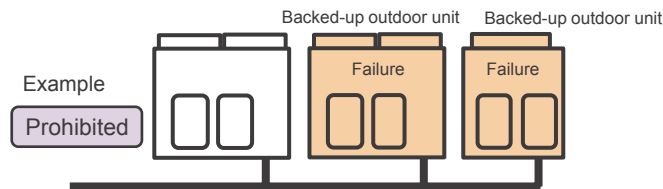
Contents of fault	Method of backup operation	Setting procedure
One of the compressors in the same unit fails (see Note 1)	Compressor backup (see Note 2)	Go to SVM-15067-4, 9-2
All the compressors in the same unit fail	Outdoor unit backup or cooling-season outdoor unit backup (see Notes 1, 3, 4 and 5)	Go to SVM-15067-4, 9-3, 9-4
A fault occurs in a compressor motor coil (e.g. a layer short-circuit)		
A fault occurs in a refrigerating cycle part, fan or related part, or electrical part		
A fault occurs in a temperature sensor or pressure sensor		

Note 1: If the compressor has failed due to a fault in its motor coil (e.g. a layer short-circuit), do not perform compressor backup operation because of severe oil degradation. It could damage other outdoor units.

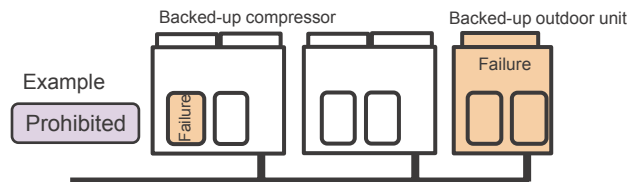
Note 2: Keep the number of backed-up outdoor units under compressor backup operation to one in the system (single refrigerant line). As for MMY-MAP1806 *, MMY-MAP2006 *, and MMY-MAP2206 *, the backup operation of compressor cannot be done.



Note 3: Keep the number of backed-up outdoor units under outdoor unit backup operation to one in the system (single refrigerant line).

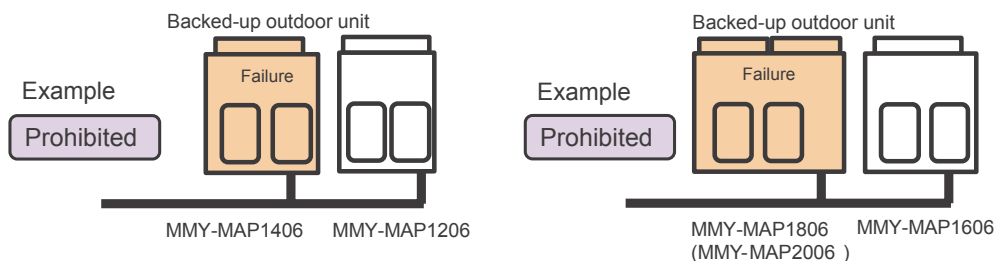


Note 4: It is prohibited to combine compressor backup operation and outdoor unit backup operation.



Note 5: With a two-outdoor unit system, do not perform outdoor unit backup operation to back up the MMY-MAP1406 (or MAP1606).

It could lead to compressor failure due to the abnormal operation.



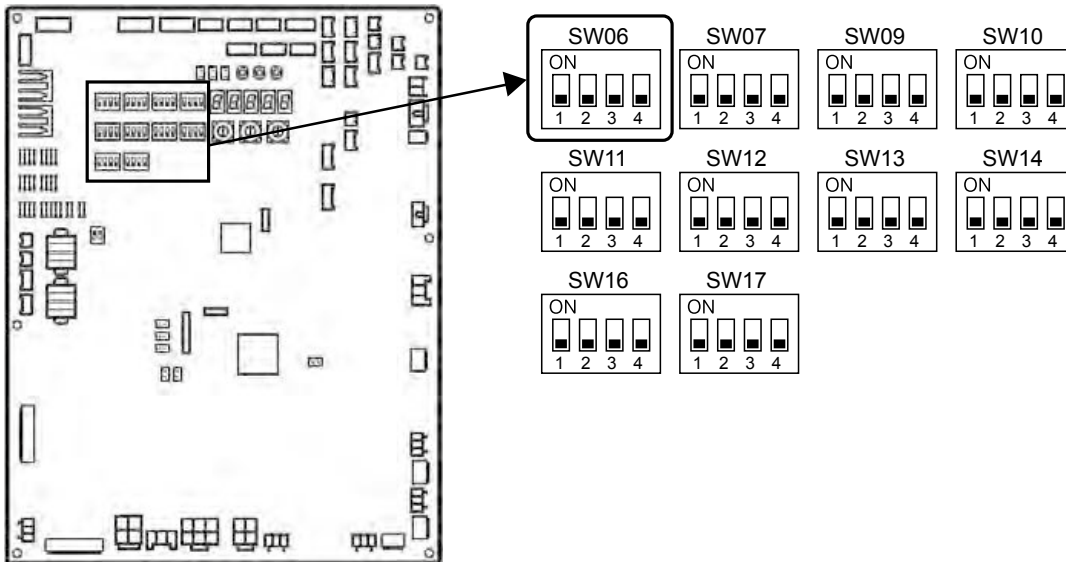
Compressor Backup Operation Setting

<Outline>

If a fault occurs to one of the compressors installed in outdoor unit, follow the procedure described below to back up the faulty compressor by using the remaining, normal compressor.

<Work Procedure>

- (1) Turn off the power supply to all the outdoor units connected to the system.
- (2) Set the DIP switches of SW06, provided on the interface P.C. board of the outdoor unit with the faulty compressor, as shown in the table below.



	SW06			
	Bit 1	Bit 2	Bit 3	Bit 4
Factory default setting	OFF	OFF	OFF	OFF
When compressor No.1 (front left) is faulty	ON	OFF	OFF	OFF
When compressor No.2 (front right) is faulty	OFF	ON	OFF	OFF

(3) Change the connection of wiring between Comp-IPDU and Fan-IPDU, as shown in the below.

Outdoor Unit (8, 10, 12, 14, 16, 18HP)

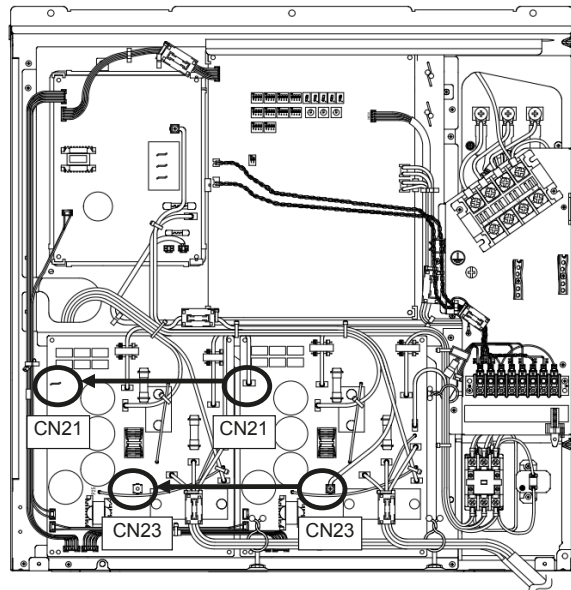
Model: MMY-MAP0806*, MAP1006*, MAP1206*, MAP1406*, MAP1606*,

1. When compressor No.1 (front left) is faulty : No change the connection of wiring

2. When compressor No.2 (front right) is faulty :

Change the connection of wiring between Como-IPDU and Fan-IPDU as shown in the below.

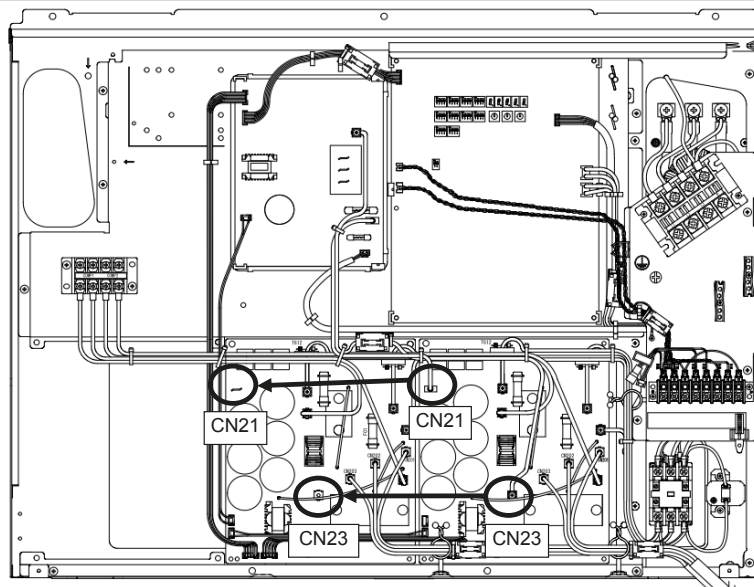
Ex. MMY-MAP0806*, MAP1006*, MAP1206*, MAP14B6*



Change the connection of wiring which is connected to the CN21, 23 of Comp-IPDU2

- Change to CN21 of Comp-IPDU1 from CN21 of Comp-IPDU2
- Change to CN23 of Comp-IPDU2 from CN23 of Comp-IPDU2

Ex. MMY- MAP1406*, MAP1606*, MAP18B6*



Change the connection of wiring which is connected to the CN21, 23 of Comp-IPDU2

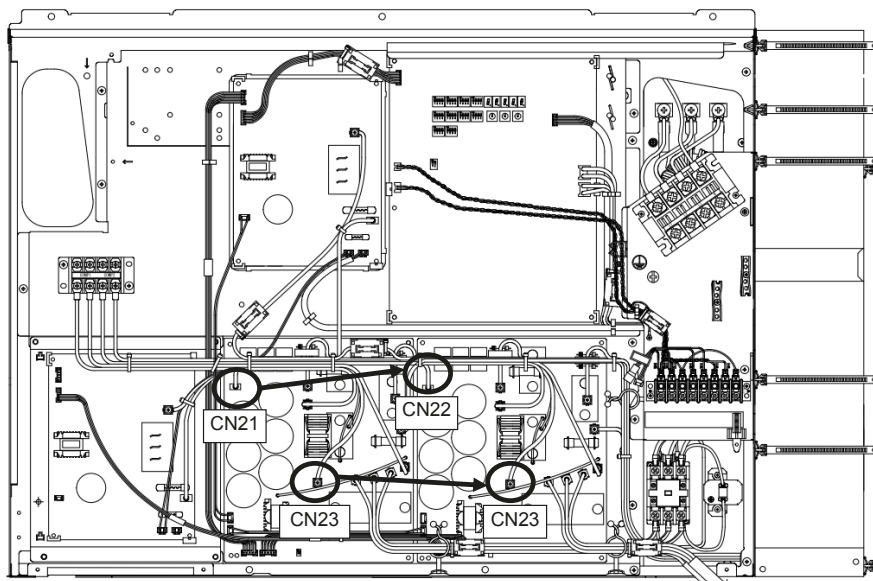
- Change to CN21 of Comp-IPDU1 from CN21 of Comp-IPDU2
- Change to CN23 of Comp-IPDU2 from CN23 of Comp-IPDU2

Outdoor Unit (18, 20, 22HP)

Model: MMY-MAP 1806*, MAP2006*, MAP2206*

1. When compressor No.1 (front left) is faulty :

Change the connection of wiring between Comp-IPDU and Fan-IPDU as shown in the below.

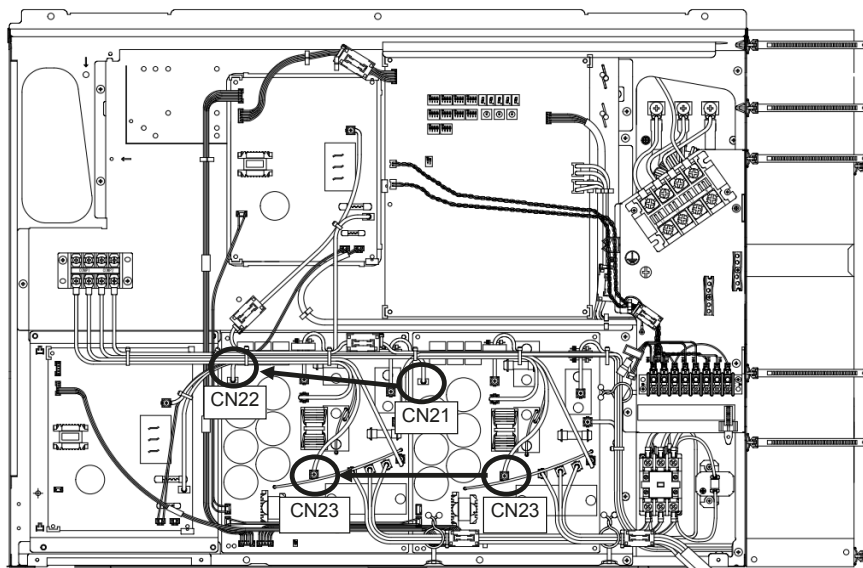


Change the connection of wiring which is connected to the CN21, 23 of Comp-IPDU1

- Change to CN22 of Comp-IPDU2 from CN21 of Comp-IPDU1
- Change to CN23 of Comp-IPDU2 from CN23 of Comp-IPDU1
(Tighten two wirings together with screw terminal)

2. When compressor No.2 (front right) is faulty :

Change the connection of wiring between Comp-IPDU and Fan-IPDU as shown in the below.



Change the connection of wiring which is connected to the CN21, 23 of Comp-IPDU2

- Change to CN22 of Comp-IPDU1 from CN21 of Comp-IPDU2
- Change to CN23 of Comp-IPDU1 from CN23 of Comp-IPDU2
(Tighten two wirings together with screw terminal)

(4) Turn on the power supply to all the units connected to the system.

This is the end of compressor backup operation setting.

Outdoor Unit Backup Operation Setting

<Outline>

This product allows outdoor unit backup operation setting to be performed either at the header unit or a follower unit. If any of the fault modes specified below occurs to one of the outdoor units in a multi-outdoor unit system, proceed with outdoor unit backup operation.

- A compressor failure (e.g. a layer short-circuit or a compressor failure in which no compressor is available to back up the faulty compressor)
- A failure of a pressure sensor (Pd or Ps) or a temperature sensor (TD1, TD2, TS1, TS3, TE1, TE2, TG1, TG2, TK1, TK2, TK4, TK5, TL1, TL2 or TL3)

Note: Keep the number of backed-up outdoor units to one in the system (single refrigerant line).

Follower outdoor unit backup operation setting (failure of follower outdoor unit)

<Work procedure>

(1) Turn off the power supply to all the indoor and outdoor units connected to the system.

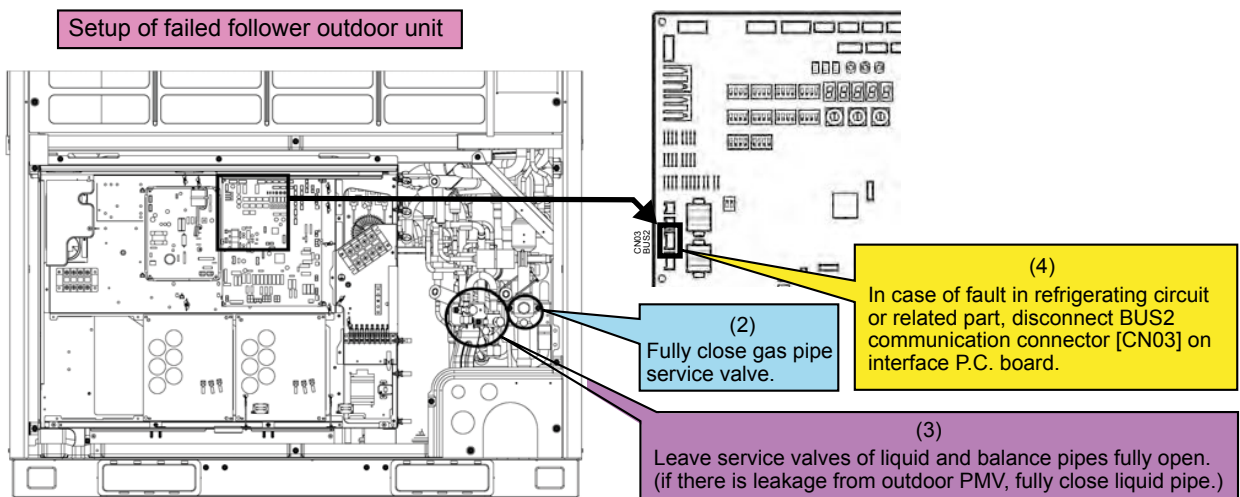
[Setup of failed follower outdoor unit]

- (2) Fully close the gas pipe service valve of the failed outdoor unit.
- (3) Leave the service valves of the liquid and balance pipe fully open (to prevent refrigerant stagnation in the unit). However, if there is a leakage from an outdoor PMV (unable to close), fully close the liquid pipe service valve.
- (4) <In case of fault in compressor, electrical part, I/F P.C. board, or IPDU P.C. board>

From this point on, keep the power supply to the failed unit off.

<In case of fault in refrigerating circuit or related part (pressure sensor, temperature sensor, refrigerating cycle part, or fan system part)>

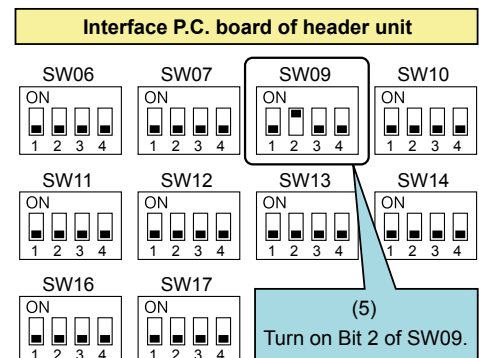
Disconnect the connector [CN03] for outdoor-outdoor communication (BUS2) provided on the interface P.C. board.



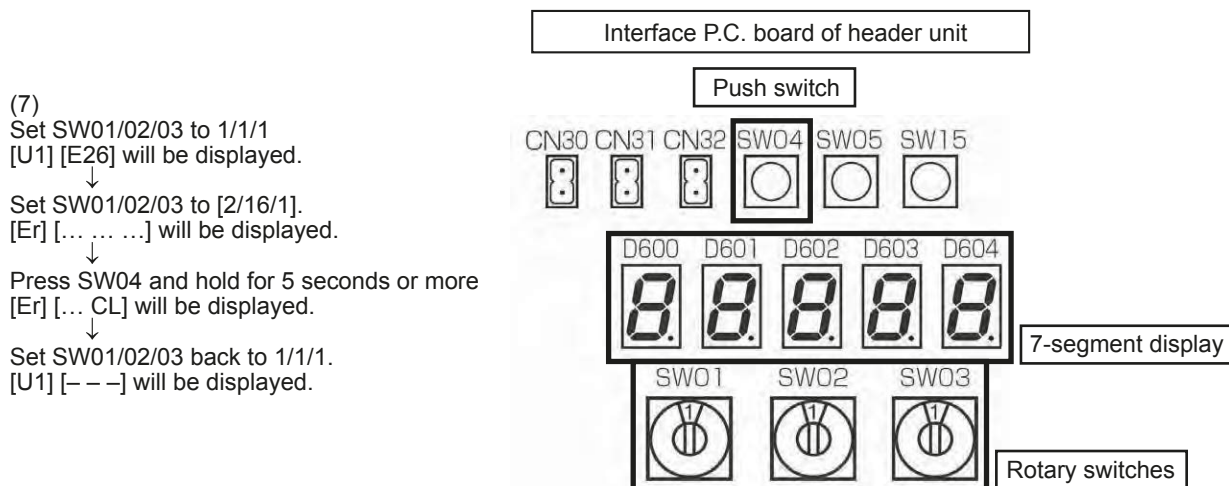
[Setup of header unit]

(5) Turn on Bit 2 of SW09 on the interface P.C. board of the header unit.

(Setting to prevent connected indoor units capacity over error. (E16))



- (6) Turn on the power supply to all the units connected to the system other than the failed follower unit.
 Determine what to do with the power supply to the failed follower unit in the following manner.
 <In case of fault in compressor, electrical part, I/F P.C. board, or IPDU P.C. board>
 Leave the power supply off.
 <In case of fault in refrigerating circuit or related part (pressure sensor, temperature sensor, refrigerating cycle part, or fan system part)>
 Turn on the power supply to protect the compressor (by turning on the case heater).
 (When the power supply to the unit is turned on, [E19] (error in the number of outdoor header units) will be displayed on the 7-segment display. However, this will not cause any problems.)
- (7) Perform settings needed to gain permission for backup operation from the header unit (error clearance).
 1) Set SW01/02/03 on the interface P.C. board to 1/1/1 and confirm that [U1] [E26] (dropping out of an outdoor unit) is displayed on the 7-segment display.
 2) Set SW01/02/03 on the interface P.C. board to 2/16/1. Upon confirming that [Er] [... ..] is displayed on the 7-segment display, press SW04 and hold for 5 seconds or more.
 3) [Er] [... CL] (error clearance completed) will be displayed on the 7-segment display.
 4) Set SW01/02/03 back to 1/1/1. (The display should change to [U1] [- - -].)



This is the end of follower outdoor unit backup operation setting. Check the operation.

Header outdoor unit backup operation setting (failure of header outdoor unit)

<Work procedure>

(1) Turn off the power supply to all the units connected to the system at the source.

[Setup of failed header outdoor unit]

(2) Fully close the gas pipe service valve.

(3) Leave the service valves of the liquid and balance pipes fully open (to prevent refrigerant stagnation in the failed outdoor unit).

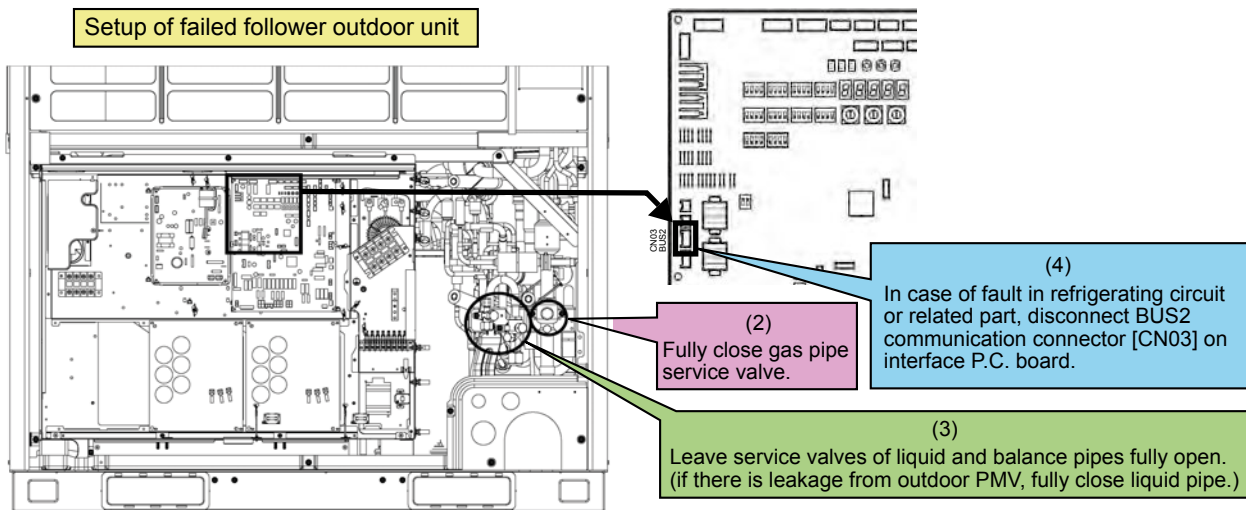
However, if there is a leakage from an outdoor PMV (unable to close), fully close the liquid pipe service valve.

(4) <In case of fault in compressor, electrical part, I/F P.C. board, or IPDU P.C. board>

From this point on, keep the power supply to the failed unit off.

<In case of fault in refrigerating circuit or related part (pressure sensor, temperature sensor, refrigerating cycle part, or fan system part)>

Disconnect the connector [CN03] for outdoor-outdoor communication (BUS2) provided on the interface P.C. board.



[Selection of new header unit]

(5) Select a new header unit from the follower units on the basis of the following criteria:

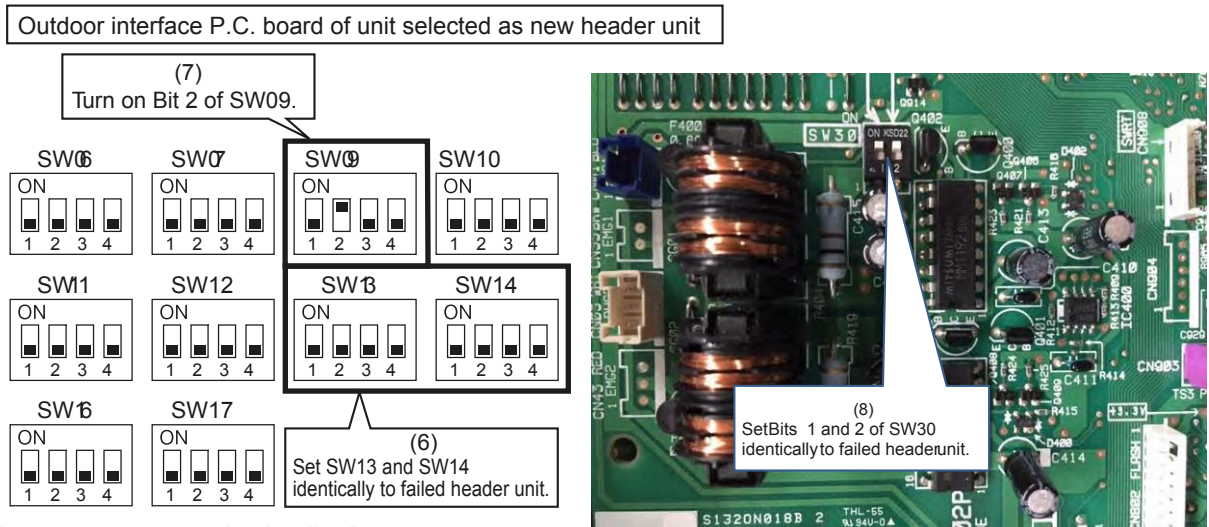
- If only one follower unit is connected, select it as the header unit.
- If two follower units are connected, select the follower unit that is nearest to the failed header unit.

[Setup of new header unit]

(6) Set SW13 and SW14 on the interface P.C. board same as the setting of failed header unit (refrigerant line address setting).

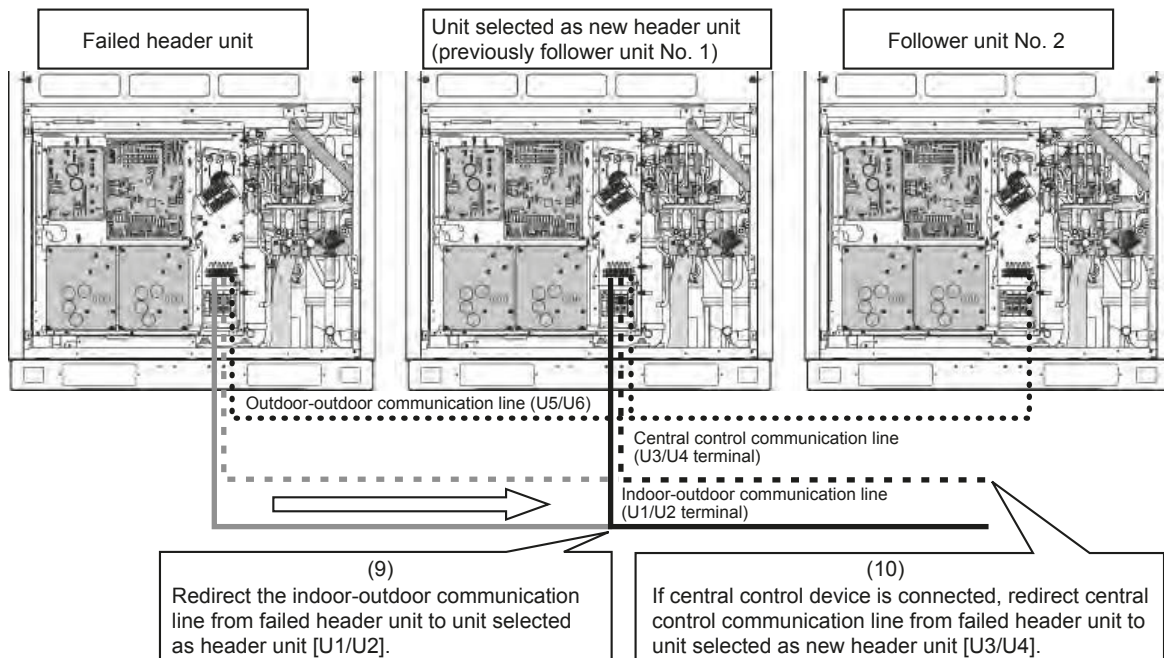
(7) Turn on Bit 2 of SW09 on the interface P.C. board. (Setting to prevent connected indoor unit capacity over error. (E16))

- (8) Set Bits 1 and 2 SW30 on the interface P.C. board same as that of the failed header unit (terminator resistance setting)



[Wiring changes to communication line]

- (9) Redirect the indoor-outdoor communication line connected to the failed header unit [U1/U2] to the unit selected as the header unit [U1/U2].
- (10) If a central control device is connected, connect the central control communication line [U3/U4] to the communication line terminal of the unit selected as the new header unit [U3/U4], and connect up the tie connector between the [U1/U2] and [U3/U4] terminal.



- (11) Turn on the power supply to all the units connected to the system other than the failed unit. Determine what to do with the power supply to the failed unit in the following manner.
- <In case of fault in compressor, electrical part, I/F P.C. board, or IPDU P.C. board>
Leave the power supply off.
- <In case of fault in refrigerating circuit or related part (pressure sensor, temperature sensor, refrigerating cycle part, or fan system part)>
- Turn on the power supply to protect the compressor (by turning on the case heater).
(When the power supply to the unit is turned on, [E19] (error in the number of outdoor header units) will be displayed on the 7-segment display. However, this will not cause any problems.

This is the end of header outdoor unit backup operation setting. Check the operation.

Cooling-Season Outdoor Unit Backup Operation Setting

<Outline>

Limited to summer and other situations where there is no need for heating operation, this function makes it possible to get backup operation up and running quickly without going through the normal setup procedure, regardless of which type of outdoor unit has failed, the header unit or a follower unit.

In this backup operation, the system behaves in exactly the same way as described in the "Outdoor Unit Backup Operation Setting" section, except that it cannot perform heating operation.

Note 1: When the system is set up for this function, heating operation is not available. ("HEATING STANDBY" displayed on the remote controller.)

Note 2: If the unit failure has been caused by a fault in the interface P.C. board or electric circuit, this function is not available. In that case, follow the procedure specified in the "Outdoor Unit Backup Operation Setting" section.

<Work procedure>

(1) Turn off the power supply to all the units connected to the system.

[Setup of failed outdoor unit]

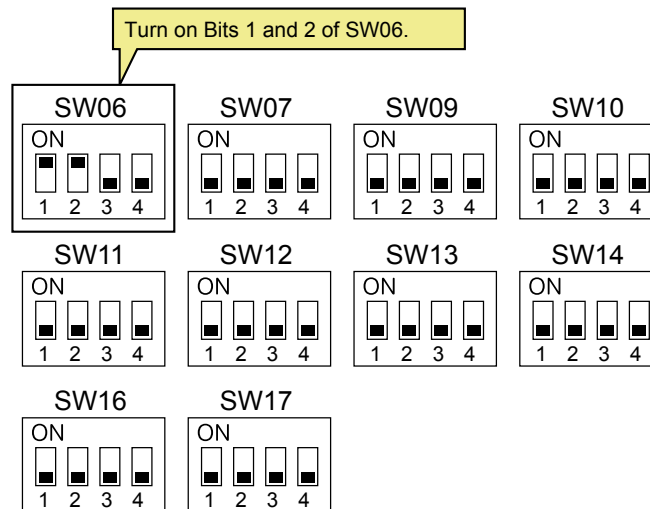
Regardless of whether the failed outdoor unit is the header unit or a follower unit, there is no difference in the setup procedure.

(2) Turn on Bits 1 and 2 of SW06 provided on the interface P.C. board.

(3) If there is a leakage from an outdoor PMV (unable to close), fully close the liquid pipe service valve.

(4) Turn on the power supply to all the units connected to the system.

If the fault involves poor insulation of a compressor motor, remove the compressor leads before the power is turned on.



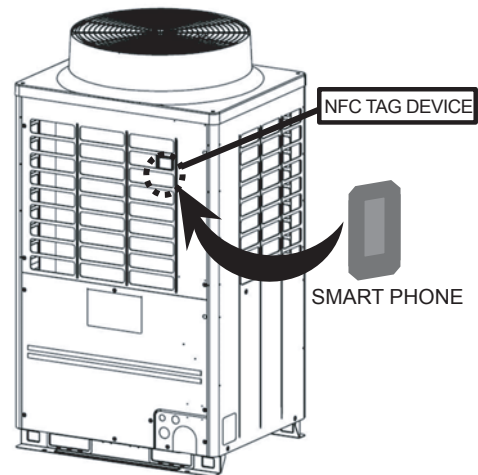
This is the end of cooling-season outdoor unit backup operation setting.

SMMS WAVE TOOL FOR SMARTPHONE

The NFC TAG DEVICE of the Outdoor unit communicates with SMARTPHONE that simplifies the install, the test operation and the maintenance of the SMMS-e. *NFC (Near Field Communication)

As for the details, refer to the Operation Manual of “SMMS WAVE TOOL FOR SMARTPHONE”

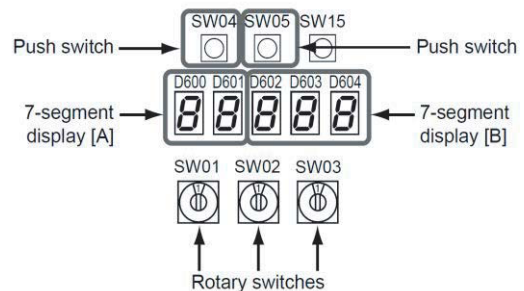
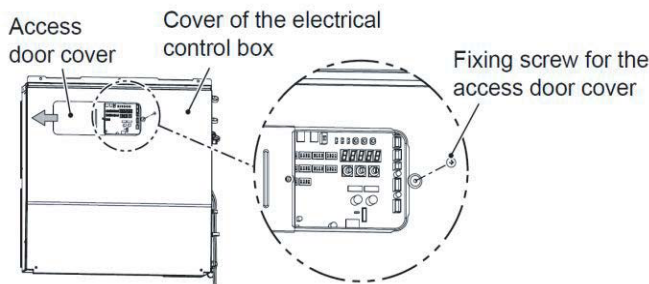
- You can download the Application and the Operating Manual from the below URL or QR code.



Prohibition/Permission of the NFC Setting

- This Application enables the functions of the auto-address setup and the test operation of the outdoor unit with Smartphone within 48 hours from the power input to the outdoor unit.
- You should decide whether to make use of the functions of the auto-address setup and test operation at its own responsibility and also be sure to confirm notices in the Operating Manual before performing the test operation.
- If you want to disable the functions of the auto-address setup and the test operation, perform the following operations.

Switch setting of some functions prohibition



How to set the NFC operation all time prohibition

Follow the below procedure.

Step	Rotary switch			Push switch	7-segment display	NFC operation setting
	SW01	SW02	SW03	SW04	[A] [B]	
(1)	2	1	14	-	[nF] [c.00]	(Default setting) After the power input, :below 48 hours [NFC operation permit] :more than 48 hours [NFC operation prohibit]
(2)	2	1	14	Press for more than 5 secs	[nF] [c.01]	NFC operation all time prohibition
(3)	1	1	1	-	[U.1.] [- - -]	Return the switch

How to set the NFC operation all time permission

Follow the below procedure.

Step	Rotaly switch			Push switch	7-segment display	NFC operation setting
	SW01	SW02	SW03	SW04	[A] [B]	
(1)	2	1	14	-	[nF] [c.00]	(Default setting) After the power input, :below 48 hours [NFC operation permit] :more than 48 hours [NFC operation prohibit]
	2	1	14	(Press 5 secs)	[nF] [c.01]	NFC operation all time prohibition
(2)	2	1	14	Press for more than 10 secs	[nF] [c.02]	NFC operation all time permission
(3)	1	1	1	-	[U.1.] [- - -]	Return the switch

* Do it again if the 7-segment display is different from the above.

* The functions other than the auto-address setup and test operation of this Application can work normally even if the functions of the auto-address setup and the test operation are disabled.

Confirmation for the generation of the trouble of the NFC

When you can not read out the information of the NFC Tag Device with your Smartphone, perform the following operations after restarting the power supply of the outdoor unit.

If there is no problem, refer to the Operation Manual of "SMMS WAVE TOOL FOR SMARTPHONE".

Step	Rotaly switch			Push switch	7-segment display	NFC-I/F board communication
	SW01	SW02	SW03	SW04	[A] [B]	
(1)	2	16	14	-	[nF] [c.Er]	Abnormal
					[nF] [c.00]	Normal
(2)	1	1	1	-	[U.1.] [- - -]	Return the switch

Trademark

Android is a trademark or registered trademark of Google Inc.

QR code is a trademark or registered trademark of DENSO WAVE Inc.

Troubleshooting Method

The remote controllers (main remote controller and central control remote controller) and the interface P.C. board of an outdoor unit are provided with an LCD display (remote controller) or a 7-segment display (outdoor interface P.C. board) to display operational status. Using this self-diagnosis feature, the problem site/problem part may be identified in the event of a problem by following the method described below.

The list below summarizes check codes detected by various devices. Analyze the check code according to where it is displayed and work out the nature of the problem in consultation with the list.

- When investigating a problem on the basis of a display provided on the indoor remote controller or TCC-LINK central control remote controller - See the "TCC-LINK remote control or main remote controller display" section of the list.
- When investigating a problem on the basis of a display provided on an outdoor unit - See the "Outdoor 7-segment display" section of the list.
- When investigating a problem on the basis of a wireless remote controller-controlled indoor unit - See the "Light sensor indicator light block" section of the list.

List of Check Codes (Indoor Unit)

(Check code detected by indoor unit)

IPDU: Intelligent Power Drive Unit (Inverter P.C. board)




○ : Lighting, ◎ : Flashing, ● : Goes off

ALT.: Flashing is alternately when there are two flashing LED




SIM: Simultaneous flashing when there are two flashing LED

Check code			Display of receiving unit				Typical problem site	Description of Check code
TCC-LINK central control or main remote controller display	Outdoor 7-segment display		Indicator light block			Flash		
		Sub-code	Operation ⏻	Timer ⌚	Ready ⊙			
E03	-	-	◎	●	●		Indoor-remote controller periodic communication error	Communication from remote controller or network adaptor has been lost (so has central control communication).
E04	-	-	●	●	◎		Indoor-outdoor periodic communication error	Signals are not being received from outdoor unit.
E08	E08	Duplicated indoor address	◎	●	●		Duplicated indoor address	Indoor unit detects address identical to its own.
E10	-	-	◎	●	●		Indoor inter-MCU communication error	MCU communication between main controller and motor microcontroller is faulty.
E18	-	-	◎	●	●		Error in periodic communication between indoor header and follower unit	Periodic communication between indoor header and follower units cannot be maintained.
F01	-	-	◎	◎	●	ALT	Indoor heat exchanger temperature sensor (TCJ) error	Heat exchanger temperature sensor (TCJ) has been open/short-circuited.
F02	-	-	◎	◎	●	ALT	Indoor heat exchanger temperature sensor (TC2) error	Heat exchanger temperature sensor (TC2) has been open/short-circuited.
F03	-	-	◎	◎	●	ALT	Indoor heat exchanger temperature sensor (TC1) error	Heat exchanger temperature sensor (TC1) has been open/short-circuited.
F10	-	-	◎	◎	●	ALT	Room air temperature sensor (TA/TSA) error	Room air temperature sensor (TA) has been open/short-circuited.
F11	-	-	◎	◎	●	ALT	Discharge air temperature sensor (TF/TFA) error	Discharge air temperature sensor (TF) has been open/short-circuited.
F17	-	-	◎	◎	○	ALT	Outside air suction temperature sensor (TOA) error	Open/Short of outside air suction temperature sensor (TOA) was detected.
F18	-	-	◎	◎	○	ALT	Indoor air suction temperature sensor (TRA) error	Discharge air temperature sensor (TF) has been open/short-circuited.
F29	-	-	◎	◎	●	SIM	P.C. board or other indoor error	Open/Short of indoor air suction temperature sensor (TRA) was detected.
L03	-	-	◎	●	◎	SIM	Duplicated indoor group header unit	There is more than one header unit in group.
L07	-	-	◎	●	◎	SIM	Connection of group control cable to stand-alone indoor unit	There is at least one stand-alone indoor unit to which group control cable is connected.
L08	L08	-	◎	●	◎	SIM	Indoor group address not set	Address setting has not been performed for one or more indoor units (also detected at outdoor unit end).
L09	-	-	◎	●	◎	SIM	Indoor capacity not set	Capacity setting has not been performed for indoor unit.
L20	-	-	◎	○	◎	SIM	Duplicated central control address	There is duplication in central control address setting.
L30	L30	Detected indoor unit No.	◎	○	◎	SIM	Indoor external error input (interlock)	Unit shutdown has been caused by external error input (CN80).
P01	-	-	●	◎	◎	SIM	Indoor AC fan error	Indoor AC fan error is detected (activation of fan motor thermal relay).
P10	P10	Detected indoor unit No.	●	◎	◎	ALT	Indoor overflow error	Float switch has been activated.
P12	-	-	●	◎	◎	ALT	Indoor DC fan error	Indoor DC fan error (e.g. overcurrent or lock-up) is detected.
P13	-	-	◎	●	◎	ALT	Other indoor unit error	Follower unit cannot be operated due to header unit alarm (E03/L03/L07/L08).

(Check code detected by main remote controller)

Check code			Display of receiving unit				Typical problem site	Description of problem
Main remote controller	Outdoor 7-segment display		Indicator light block					
		Sub-code	Operation 	Timer 	Ready 	Flash		
E01	-	-	⊙	●	●		No master remote controller, faulty remote controller communication (reception)	Signals cannot be received from indoor unit; master remote controller has not been set (including two remote controller control).
E02	-	-	⊙	●	●		Faulty remote controller communication (transmission)	Signals cannot be transmitted to indoor unit.
E09	-	-	⊙	●	●		Duplicated master remote controller	Both remote controllers have been set as master remote controller in two remote controller control (alarm and shutdown for header unit and continued operation for follower unit)

(Check code detected by central control device)

Check code			Display of receiving unit				Typical problem site	Description of problem
TCC-LINK central control	Outdoor 7-segment display		Indicator light block					
		Sub-code	Operation 	Timer 	Ready 	Flash		
C05	-	-					Faulty central control communication (transmission)	Central control device is unable to transmit signal due to duplication of central control device.
C06	-	-	No indication (when main remote controller also in use)				Faulty central control communication (reception)	Central control device is unable to receive signal.
-	-	-					Multiple network adapters	Multiple network adapters are connected to remote controller communication line.
2 1 C	-	-					Blanket alarm for general-purpose device control interface	Device connected to general-purpose device control interface for TCC-LINK is faulty.
P30	-	-	As per alarm unit (see above)				Group control follower unit error	Group follower unit is faulty (unit No. and above detail [***] displayed on main remote controller)

Note: The same error, e.g. a communication error, may result in the display of different check codes depending on the device that detects it. Moreover, check codes detected by the main remote controller/central control device do not necessarily have a direct impact on air conditioner operation.

List of Check Codes (Outdoor Unit)

(Check code detected by SMMS-e outdoor interface - typical examples)

If "HELLO" is displayed on the outdoor 7-segment for 1 minute or more, turn off the power supply once and then turn on the power supply again after passage of 30 seconds or more. When the same symptom appears, it is considered there is a possibility of I/F board error.

IPDU: Intelligent Power Drive Unit (Inverter P.C. board)

○ : Lighting, ⊙ : Flashing, ● : Goes off

ALT.: Flashing is alternately when there are two flashing LED

SIM: Simultaneous flashing when there are two flashing LED




Check code		Display of receiving unit				Typical problem site	Description of problem																																																																																											
Outdoor 7-segment display	TCC-LINK central control or main remote controller display	Indicator light block																																																																																																
Sub-code		Operation ⏻	Timer ⌚	Ready ⊙	Flash																																																																																													
E06	Number of indoor units from which signal is received normally	E06	●	●	⊙		Signal lack of indoor unit	Indoor unit initially communicating normally fails to return signal (reduction in number of indoor units connected).																																																																																										
E07	—	(E04)	●	●	⊙		Indoor-outdoor communication circuit error	Signal cannot be transmitted to indoor units (→ indoor units left without communication from outdoor unit).																																																																																										
E08	Duplicated indoor address	(E08)	⊙	●	●		Duplicated indoor address	More than one indoor unit are assigned same address (also detected at indoor unit end).																																																																																										
E12	01: Indoor-outdoor communication 02: Outdoor-outdoor communication	E12	⊙	●	●		Automatic address starting error	<ul style="list-style-type: none"> Indoor automatic address setting is started while automatic address setting for equipment in other refrigerant line is in progress. Outdoor automatic address setting is started while automatic address setting for indoor units is in progress. 																																																																																										
E15	—	E15	●	●	⊙		Indoor unit not found during automatic address setting	Indoor unit fails to communicate while automatic address setting for indoor units is in progress.																																																																																										
E16	00: Overloading 01: Number of units connected	E16	●	●	⊙		Too many indoor units connected/overloading	Combined capacity of indoor units is too large. The maximum combined of indoor units shown in the specification table.																																																																																										
E19	00: No header unit 02: Two or more header units	E19	●	●	⊙		Error in number of outdoor header units	There is no or more than one outdoor header unit in one refrigerant line.																																																																																										
E20	01: Connection of outdoor unit from other refrigerant line 02: Connection of indoor unit from other refrigerant line	E20	●	●	⊙		Connection to other refrigerant line found during automatic address setting	Indoor unit from other refrigerant line is detected while indoor automatic address setting is in progress.																																																																																										
E23	—	E23	●	●	⊙		Outdoor-outdoor communication transmission error	Signal cannot be transmitted to other outdoor units.																																																																																										
E25	—	E25	●	●	⊙		Duplicated follower outdoor address	There is duplication in outdoor addresses set manually.																																																																																										
E26	Address of outdoor unit from which signal is not received normally	E26	●	●	⊙		Signal lack of outdoor unit	Follower outdoor unit initially communicating normally fails to do so (reduction in number of follower outdoor units connected).																																																																																										
		E28	●	●	⊙		Outdoor follower unit error	Outdoor header unit detects fault relating to follower outdoor unit (detail displayed on follower outdoor unit).																																																																																										
1	<table border="1"> <thead> <tr> <th></th> <th colspan="2">A3-IPDU</th> <th colspan="2">Fan-IPDU</th> <th colspan="2">A3-IPDU</th> <th colspan="2">Fan-IPDU</th> </tr> <tr> <th></th> <th>1</th> <th>2</th> <th>1</th> <th>2</th> <th>1</th> <th>2</th> <th>1</th> <th>2</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>○</td> <td></td> <td></td> <td></td> <td>10</td> <td></td> <td></td> <td>○</td> </tr> <tr> <td>02</td> <td>○</td> <td>○</td> <td></td> <td></td> <td>11</td> <td>○</td> <td></td> <td>○</td> </tr> <tr> <td>03</td> <td>○</td> <td>○</td> <td></td> <td></td> <td>12</td> <td>○</td> <td>○</td> <td>○</td> </tr> <tr> <td>08</td> <td></td> <td></td> <td>○</td> <td></td> <td>13</td> <td>○</td> <td>○</td> <td>○</td> </tr> <tr> <td>09</td> <td>○</td> <td></td> <td>○</td> <td></td> <td>18</td> <td></td> <td>○</td> <td>○</td> </tr> <tr> <td>0A</td> <td>○</td> <td>○</td> <td></td> <td></td> <td>19</td> <td>○</td> <td>○</td> <td>○</td> </tr> <tr> <td>0B</td> <td>○</td> <td>○</td> <td>○</td> <td></td> <td>1A</td> <td>○</td> <td>○</td> <td>○</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1B</td> <td>○</td> <td>○</td> <td>○</td> </tr> </tbody> </table> <p>Circle (○): Faulty IPDU 80 : Communication error between MCU and Sub MCU</p>		A3-IPDU		Fan-IPDU		A3-IPDU		Fan-IPDU			1	2	1	2	1	2	1	2	01	○				10			○	02	○	○			11	○		○	03	○	○			12	○	○	○	08			○		13	○	○	○	09	○		○		18		○	○	0A	○	○			19	○	○	○	0B	○	○	○		1A	○	○	○						1B	○	○	○	E31	●	●	⊙		IPDU communication error Sub MCU communication error	There is no communication between IPDUs (P.C. boards) in inverter box.
	A3-IPDU		Fan-IPDU		A3-IPDU		Fan-IPDU																																																																																											
	1	2	1	2	1	2	1	2																																																																																										
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					1B	○	○	○																																																																																										
F04	—	F04	⊙	⊙	○		Outdoor discharge temperature sensor (TD1) error	Outdoor discharge temperature sensor (TD1) has been open/short-circuited.																																																																																										
F05	—	F05	⊙	⊙	○	ALT	Outdoor discharge temperature sensor (TD2) error	Outdoor discharge temperature sensor (TD2) has been open/short-circuited.																																																																																										
F06	01: TE1 02: TE2	F06	⊙	⊙	○	ALT	Outdoor heat exchanger liquid side temperature sensor (TE1, TE2) error	Outdoor heat exchanger liquid side temperature sensors (TE1, TE2) have been open/short-circuited.																																																																																										
F07	01: TL1 02: TL2 03: TL3	F07	⊙	⊙	○	ALT	Outdoor liquid temperature sensor (TL1, TL2, TL3) error	Outdoor liquid temperature sensor (TL1, TL2, TL3) has been open/short-circuited.																																																																																										
F08	—	F08	⊙	⊙	○	ALT	Outdoor outside air temperature sensor (TO) error	Outdoor outside air temperature sensor (TO) has been open/short-circuited.																																																																																										
F09	01: TG1 02: TG2						Outdoor heat exchanger gas side temperature sensor (TG1, TG2) error	Outdoor heat exchanger gas side temperature sensors (TG1, TG2) have been open/short-circuited.																																																																																										

Check code		Display of receiving unit				Typical problem site	Description of problem	
Outdoor 7-segment display		TCC-LINK central control or main remote controller display	Indicator light block					
Sub-code			Operation	Timer	Ready	Flash		
F12	01: TS1 03: TS3	F12	☉	☉	○	ALT	Outdoor suction temperature sensor (TS1,TS3) error	Outdoor suction temperature sensor (TS1,TS3) has been open/short-circuited.
F15	-	F15	☉	☉	○	ALT	Outdoor temperature sensor (TE1,TL1) wiring error	Wiring error in outdoor temperature sensors (TE1,TL1) has been detected.
F16	-	F16	☉	☉	○	ALT	Outdoor pressure sensor (Pd, Ps) wiring error	Wiring error in outdoor pressure sensors (Pd, Ps) has been detected.
F23	-	F23	☉	☉	○	ALT	Low pressure sensor (Ps) error	Output voltage of low pressure sensor (Ps) is zero.
F24	-	F24	☉	☉	○	ALT	High pressure sensor (Pd) error	Output voltage of high pressure sensor (Pd) is zero or provides abnormal readings when compressors have been turned off.
F31	-	F31	☉	☉	○	SIM	Outdoor EEPROM error	Outdoor EEPROM is faulty (alarm and shutdown for header unit and continued operation for follower unit)
H05	-	H05	●	☉	●		Outdoor discharge temperature sensor (TD1) wiring error	Wiring/installation error or detachment of outdoor discharge temperature sensor (TD1) has been detected.
H06	-	H06	●	☉	●		Activation of low-pressure protection	Low pressure (Ps) sensor detects abnormally low operating pressure.
H07	-	H07	●	☉	●		Low oil level protection	Temperature sensor for oil level detection (TK1,TK2,TK4,TK5) detects abnormally low oil level.
H08	01: TK1 sensor error 02: TK2 sensor error 04: TK4 sensor error 05: TK5 sensor error	H08	●	☉	●		Error in temperature sensor for oil level detection (TK1,TK2,TK4,TK5)	Temperature sensor for oil level detection (TK1,TK2,TK4,TK5) has been open/short-circuited.
H15	-	H15	●	☉	●		Outdoor discharge temperature sensor (TD2) wiring error	Wiring/installation error or detachment of outdoor discharge temperature sensor (TD2) has been detected.
H16	01: TK1 oil circuit error 02: TK2 oil circuit error 04: TK4 oil circuit error 05: TK5 oil circuit error	H16	●	☉	●		Oil level detection circuit error	No temperature change is detected by temperature sensor for oil level detection (TK1,TK2,TK4,TK5) despite compressor having been started.
L04	-	L04	☉	○	☉	SIM	Duplicated outdoor refrigerant line address	Identical refrigerant line address has been assigned to outdoor units belonging to different refrigerant piping systems.
L06	Number of priority indoor units (check code L05 or L06 depending on individual unit)	L05	☉	●	☉	SIM	Duplicated priority indoor unit (as displayed on priority indoor unit)	More than one indoor unit have been set up as priority indoor unit.
		L06	☉	●	☉	SIM	Duplicated priority indoor unit (as displayed on indoor unit other than priority indoor unit)	More than one indoor unit have been set up as priority indoor unit.
L08	-	(L08)	☉	●	☉	SIM	Indoor group address not set	Address setting have not been performed for one or more indoor units (also detected at indoor end).
L10	-	L10	☉	○	☉	SIM	Outdoor capacity net set	Outdoor unit capacity has not been set (after P.C. board replacement).
L17	-	L17	☉	○	☉	SIM	Outdoor model incompatibility error	Old model outdoor unit (prior to 6 series) has been connected.
L23	-	L23	☉	○	☉	SIM	SW setting mistake	Bit 3 and 4 of SW17 are turning on.
L28	-	L28	☉	○	☉	SIM	Too many outdoor units connected	More than three outdoor units have been connected.

Check code		Display of receiving unit		Typical problem site	Description of problem																																																																																																		
Outdoor 7-segment display		TCC-LINK central control or main remote controller display	Indicator light block																																																																																																				
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L29	<table border="1"> <thead> <tr> <th colspan="2">A3-IPDU</th> <th colspan="2">Fan-IPDU</th> <th colspan="2">A3-IPDU</th> <th colspan="2">Fan-IPDU</th> </tr> <tr> <th>1</th><th>2</th><th>1</th><th>2</th><th>1</th><th>2</th><th>1</th><th>2</th> </tr> </thead> <tbody> <tr> <td>01</td><td>o</td><td></td><td></td><td>10</td><td></td><td></td><td></td><td>o</td> </tr> <tr> <td>02</td><td></td><td>o</td><td></td><td>11</td><td>o</td><td></td><td></td><td>o</td> </tr> <tr> <td>03</td><td>o</td><td>o</td><td></td><td>12</td><td></td><td>o</td><td></td><td>o</td> </tr> <tr> <td>08</td><td></td><td></td><td>o</td><td>13</td><td>o</td><td>o</td><td></td><td>o</td> </tr> <tr> <td>09</td><td>o</td><td></td><td>o</td><td>18</td><td></td><td></td><td>o</td><td>o</td> </tr> <tr> <td>0A</td><td></td><td>o</td><td>o</td><td>19</td><td>o</td><td></td><td>o</td><td>o</td> </tr> <tr> <td>0B</td><td>o</td><td>o</td><td>o</td><td>1A</td><td></td><td>o</td><td>o</td><td>o</td> </tr> <tr> <td></td><td></td><td></td><td></td><td>1B</td><td>o</td><td>o</td><td>o</td><td>o</td> </tr> </tbody> </table> <p>Circle (O): Faulty IPDU</p>								A3-IPDU		Fan-IPDU		A3-IPDU		Fan-IPDU		1	2	1	2	1	2	1	2	01	o			10				o	02		o		11	o			o	03	o	o		12		o		o	08			o	13	o	o		o	09	o		o	18			o	o	0A		o	o	19	o		o	o	0B	o	o	o	1A		o	o	o					1B	o	o	o	o	L29	⊙	○	⊙	SIM	Error in number of IPDUs	There are insufficient number of IPDUs (P.C. boards) in inverter box.
A3-IPDU		Fan-IPDU		A3-IPDU		Fan-IPDU																																																																																																	
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				1B	o	o	o	o																																																																																															
L30	Detected indoor unit No.	(L30)	⊙	○	⊙	SIM	Indoor external error input (interlock)	Indoor unit has been shut down for external error input in one refrigerant line (detected by indoor unit).																																																																																															
P03	–	P03	⊙	●	⊙	ALT	Outdoor discharge (TD1) temperature error	Outdoor discharge temperature sensor (TD1) has detected abnormally high temperature.																																																																																															
P05	00: Open phase detected	P05	⊙	●	⊙	ALT	Open phase/power failure	Open phase is detected when power is turned on. Inverter DC voltage is too high (overvoltage) or too low (undervoltage).																																																																																															
	01: Compressor 1 02: Compressor 2						Inverter DC voltage (Vdc) error MG-CTT error																																																																																																
P07	01: Compressor 1 02: Compressor 2	P07	⊙	●	⊙	ALT	Heat sink overheating error	Temperature sensor built into IPM (TH) detects overheating.																																																																																															
P10	Indoor unit No. detected	(P10)	●	⊙	⊙	ALT	Indoor unit overflow	Indoor unit has been shutdown in one refrigerant line due to detection of overflow (detected by indoor unit).																																																																																															
P13	–		●	⊙	⊙	ALT	Outdoor liquid backflow detection error	State of refrigerant cycle circuit indicates liquid backflow operation.																																																																																															
P15	01: TS condition 02: TD condition		⊙	●	⊙	ALT	Gas leak detection	Outdoor suction temperature sensor (TS1) detects sustained and repeated high temperatures that exceed standard value.																																																																																															
P17	–		⊙	●	⊙	ALT	Outdoor discharge (TD2) temperature error	Outdoor discharge temperature sensor (TD2) detects abnormally high temperature.																																																																																															
P19			⊙	●	⊙	ALT	4-way valve reversing error	Abnormality in refrigerating cycle is detected during heating operation.																																																																																															
P20	–		⊙	●	⊙	ALT	Activation of high-pressure protection	High pressure (Pd) sensor detects high pressure that exceeds standard value.																																																																																															

MG-CTT: Magnet contactor

(Check code detected by IPDU featuring in SMMS-e standard outdoor unit - typical examples)

Check code		TCC-LINK central control or main remote controller display	Display of receiving unit				Typical problem site	Description of proplem
Outdoor 7-segment display			Indicator light block					
	Sub-code		Operation 	Timer 	Ready 	Flash		
F13	01: Compressor 1 02: Compressor 2	F13	⊙	⊙	○	ALT	Error in temperature sensor built into indoor IPM (TH)	Temperature sensor built into indoor IPM (TH) has been open/short-circuited.
H01	01: Compressor 1 02: Compressor 2	H01	●	⊙	●		Compressor breakdown	Inverter current (Idc) detection circuit detects overcurrent.
H02	01: Compressor 1 02: Compressor 2	H02	●	⊙	●		Compressor error (lockup)	Compressor lockup is detected
H03	01: Compressor 1 02: Compressor 2	H03	●	⊙	●		Current detection circuit error	Abnormal current is detected while inverter compressor is turned off.
P04	01: Compressor 1 02: Compressor 2	P04	⊙	●	⊙	ALT	Activation of high-pressure SW	High-pressure SW is activated.
P07	01: Compressor 1 02: Compressor 2	P07	⊙	●	⊙	ALT	Heat sink overheating error	Temperature sensor built into IPM (TH) detects overheating or has been short-circuited.
P22	#0:Element short circuit #1:Position detection circuit error #3:Motor lock error #4:Motor current error #C:TH Sensor temperature error #D:TH Sensor short circuit/release error #E:Vdc voltage error ⊗Put in Fan IPDU No. in [#] mark	P22	⊙	●	⊙	ALT	Outdoor fan IPDU error	Outdoor fan IPDU detects error.
P26	01: Compressor 1 02: Compressor 2	P26	⊙	●	⊙	ALT	Activation of IPM short-circuit protection	Short-circuit protection for compressor motor driver circuit components is activated (momentary overcurrent).
P29	01: Compressor 1 02: Compressor 2	P29	⊙	●	⊙	ALT	Compressor position detection circuit error	Compressor motor position detection error is detected.

Note: The above check codes are examples only, and different check codes may be displayed depending on the outdoor unit configuration

Quick Reference

